Over Water Pathway Source Control Evaluation Report

Shore Terminals LLC, Portland Facility
DEQ ECSI Site No. 5130
Portland, Oregon

for
Shore Terminals LLC

March 16, 2023

GeoEngineers
Earth Science + Technology

Over Water Pathway Source Control Evaluation Report

Shore Terminals LLC
Portland Facility
DEQ ECSI Site No. 5130
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GeoEngineers

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File No. 19001-010-08

March 16, 2023

Prepared for:

Shore Terminals LLC

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1.0 INTRODUCTION

This Over Water Pathway Source Control Evaluation (SCE) report presents the results of evaluating over water operations at the Shore Terminals LLC (Shore Terminals) Portland Terminal (the Facility) to document that potential sources to the river are adequately controlled. The report has been prepared on behalf of Shore Terminals for the Oregon Department of Environmental Quality (DEQ) Environmental Cleanup Site Information (ECSI) Site No. 5130, located at 9420 NW St. Helens Road (U.S. Highway 30) in Portland, Oregon. A Facility location map is included as Figure 1. The Facility vicinity plan is presented in Figure 2.

The Facility is an approximately 29-acre bulk petroleum and renewable fuels terminal located on the west side of the Willamette River within Portland Harbor. Petroleum hydrocarbon-related constituents were detected in groundwater beneath the Facility in the 1970s and 1980s, and groundwater remediation using various technologies has been conducted since that time.

An SCE was conducted at the Facility from 2011 to 2014, and the results are documented in a 2015 SCE Report (Apex, 2015). The 2015 SCE addressed the following potential migration pathways to the Willamette River:

- Riverbank soil.
- Overland migration to the river via surface water or stormwater.
- Stormwater discharges to the river.
- Groundwater discharge to the river.

The SCE did not include an evaluation of the over water pathway. On November 28, 2022, representatives of Shore Terminals met with the DEQ in an online meeting to discuss the status of ongoing SCE and source control measure (SCM) activities at the Facility. During the November 28 meeting, DEQ noted the two docks located at the Facility and requested that the over water source control pathway be evaluated. This report has been prepared in response to the DEQ request.

1.1. Objectives

The objectives of this Over Water Pathway SCE report are to describe the existing source control and best management practices (BMPs) associated with the over water operations at the Facility and evaluate whether the existing measures adequately mitigate potential sources from these over water operations.

1.2. Regulatory Framework

This report was prepared pursuant to:

- Source Control Agreement LQVC-NWR-08-14 (Source Control Agreement; DEQ, 2009) between DEQ and Shore Terminals.
- Voluntary Cleanup Agreement No. ECVC-NWR-01-15 (VCP Agreement; DEQ, 2002), formerly between ExxonMobil and DEQ. ExxonMobil had been conducting investigation and cleanup of releases that occurred in the Northern Facility Area during its ownership of this area pursuant to the Voluntary

Cleanup Agreement. Effective December 22, 2011, Shore Terminals agreed to comply with the Voluntary Cleanup Agreement.

1.3. Report Organization

The Over Water Pathway SCE report has been organized as follows:

- **Section 1** provides an introduction, objectives of the report, and the regulatory framework.
- **Section 2** discusses background information on the Facility including a site description; historical and current uses; and historical over water releases and responses that have occurred during Shore Terminals ownership of the Facility.
- **Section 3** describes the over water operations, identifies the current plans and manuals that are in place to mitigate this pathway, and lists the BMPs associated with the over water operations.
- **Section 4** provides conclusions and recommendations based on a review of the plans identified in Section 3.
- **Section 5** lists the references utilized in preparation of this document.

2.0 BACKGROUND

This section provides background information on the Facility to support the SCE discussions including a description of the Facility; historical and current Facility uses; and an identification of previous releases during over water activities since Shore Terminals acquired the Facility and the responses employed that limited sources from reaching the river.

2.1. Facility Description

The Facility is an active bulk petroleum and renewable fuels terminal located on the western bank of the Willamette River near River Mile (RM) 5 (Figure 1). The Facility is bounded by St. Helens Road (Highway 30) on the west, by the Willamette River on the east, and is bisected by a set of north-south-running railroad tracks. The railway right-of-way is owned by the Oregon Department of Transportation (ODOT) and leased by Portland & Western Railroad for use as a branch rail line. The Facility is bordered to the north by the Seaport Midstream Partners, LLC bulk petroleum terminal (formerly Arco/BP bulk petroleum terminal) and ExxonMobil, which continues to operate a lube distribution facility (ECSI Site No. 137) that is accessed through the Shore Terminals Facility. To the south, the Facility is bordered by the Foss Maritime (dba Brix Maritime) property. Five aboveground storage tank (AST) fields are located at the Facility and are referred to as Tank Fields 1 through 5. The locations of the tank fields are shown in Figure 2.

The Facility is comprised of the Northern Facility Area, which was formerly owned by ExxonMobil and was acquired by Shore Terminals in 2001, and the Southern Facility Area, which was formerly owned by Time Oil Company and acquired by Shore Terminals in 1999.

The Northern Facility Area consists of three tank fields (Tank Fields 1 through 3), the Loading Rack, and a dock for offloading/loading bulk fuel products[1], as well as shop and office buildings. The dock, which is the

[1] "Fuel products" is used to refer to both petroleum-based and renewable fuel products such as biodiesel.

only over water operational area in the Northern Facility Area, is referred to in Shore Terminals documents as the "P-2 dock" and this terminology is used herein. The location of the P-2 dock is shown on Figure 2. Cowlitz Clean Sweep (CCS), a spill response and industrial cleaning services division of PNE Corporation, leases and operates a warehouse structure (Building 8) at the northeast corner of the Northern Facility Area (formerly occupied by Clean Rivers). Telluric Enterprises LLC, another environmental services and spill response contractor, leases Building 12 for equipment storage. Additionally, BP Olympic Pipeline and Kinder Morgan operate leased spaces or rights-of-way at the Facility, which is discussed in further detail in Section 2.3.

The Southern Facility Area was largely undeveloped until 1979 when Tank Field 4 was constructed. The former Time Oil tract now includes Tank Fields 4 and 5, a dock for offloading/loading bulk fuel products, and an office building. Both tank fields are surrounded by concrete containment walls. The dock, which is the only over water operational area in the Southern Facility Area, is referred to in Shore Terminals documents as the "P-3 dock" and is located as shown on Figure 2.

2.2. Historical and Current Facility Uses

The Facility historically and currently receives, delivers, blends, and stores a variety of virgin (i.e., non-recycled) fuel products such as fuel oils, gasoline, diesel, ethanol, and biodiesel—all of which are owned by its customers. The petroleum products handled at the Facility consist of hydrocarbon fractions derived from the distillation of crude oil. Polycyclic aromatic hydrocarbons (PAHs) are a small component of petroleum hydrocarbon products handled at the Facility. The PAHs in petroleum hydrocarbon products present at the Facility are petrogenic and generally fall into the light molecular weight range (i.e., LPAHs). Pyrogenic heavy molecular weight PAHs (HPAHs) are not included in materials handled at the Facility. The materials handled at the Facility do not include polychlorinated biphenyls (PCBs), dioxins and furans, or pesticide compounds.

Customer fuel products are delivered to and transferred from the Facility via third-party-owned marine vessels, rail cars, trucks, and pipelines. Facility operations are classified under North American Industry Classification System (NAICS) Code 424710. The Facility is zoned Heavy Industrial and River Industrial.

Approximately 35 to 50 percent of the fuel product arrives via ship or barge at either the P-2 or P-3 docks, and approximately 1 to 6 percent leaves by ship or barge from the two docks. For example, in 2006 to 2010, approximately 35 percent of the product arrived by ship and 6 percent left by ship. More recently, in 2019, 47 percent arrived via ship or barge, 9 percent arrived by tank truck or rail car, and 44 percent arrived via pipeline. Of the total product that was transferred out of the Facility, 1 percent left via ship or barge, 26 percent left via pipeline, and 73 percent was transferred to tanker trucks at the loading rack.

2.3. Historical Overwater Releases and Responses

2.3.1. P-2 Dock

There have been five known events during Shore Terminals' ownership of the Northern Facility that resulted in minor releases at the P-2 dock, of which one resulted in approximately one gallon of hydraulic fluid reaching the river as detailed below.

- Approximately one gallon of gasoline dripped from a loading arm into a bucket while fuel was being transferred from a marine vessel at the dock on November 8, 2007. This release did not reach the river.
- On June 15, 2010, hydraulic fluid dripped from the loading arm hydraulic piston located on the Facility's dock; approximately one gallon reached the river.
- Diesel was observed in containment below a flange on June 9, 2011. Investigation determined the leak occurred when a pipe developed excess pressure and leaked due to thermal expansion. Approximately one quart leaked into the containment; no diesel reached the river.
- On June 22, 2011, a small oil stain was observed on the dock from a contractor's equipment; no pooling of free product was observed and none of the material reached the river due to the construction of the dock, which includes curbing around the structure.

2.3.2. P-3 Dock

There have been two known events during Shore Terminals' ownership of the Southern Facility that resulted in releases from the P-3 dock, as described below.

- Approximately 175 gallons of jet fuel spilled at the P-3 dock on August 11, 2003, while the product was being offloaded from a third party barge. Approximately 75 gallons were released to the Willamette River and 100 gallons were released to the barge deck. The jet fuel released to the barge deck was recovered by the barge operator. The spill to the river was contained with a boom and the product was removed.
- On August 16, 2011, petroleum product was seen dripping from a hose connection on the diesel header into the containment structure on the P-3 dock. A gasket was found to be missing from the hose and was replaced. The product that leaked into containment was cleaned up with absorbent materials. Regulatory authorities were not notified due to the limited volume released and because the release did not reach the river.

3.0 OVER WATER SOURCE CONTROL PATHWAY

The following describes the construction of the P-2 and P-3 docks, over water operations, and the existing plans that provide the framework for mitigating sources from reaching the river.

3.1. Description of Dock Construction and Over Water Operations

The P-2 and P-3 docks are built with curbing around the dock and walkway decking such that any stormwater or released liquids cannot runoff into the Willamette River. For both docks, operations are restricted solely to the transfer of fuel product to or from ships and barges to or from the Facility. No ship or equipment maintenance is conducted on the docks or on the vessels moored at the docks, and no hazardous substances (e.g., cleaning supplies, etc.) are stored on the docks. From 1999 through 2009, the Facility averaged approximately 225 cross-dock transfers a year. In 2010, the customer that was responsible for the majority of the cross-dock transfers made a change in its operations and in 2011 there were about 20 cross-dock transfers. More recently, in 2018 and 2019, the number of cross-dock transfers averaged 41 per year.

The construction and operations at the P-2 and P-3 docks are described further below.

3.1.1. P-2 Dock Construction

The P-2 dock was built by ExxonMobil between 1923 and 1936 on submerged land owned by the State of Oregon (the State) through its Department of State Lands and leased to the Facility (Shore Terminals is the current holder of the lease). The surface decking and walkway are surrounded by curbing that channels storm water or released liquids to a conveyance line that is connected to a 10,000 gallon oil/water separator referred to in Facility documents as the P-2 oil/water separator. Ten stormwater catch basins are present on the dock and connected to the conveyance line to provide comprehensive cover to capture and channel liquids as shown on Figure 3.

The captured storm water is treated via the P-2 oil/water separator before being released to the Willamette River via outfall WR-78 under an NPDES permit. Discharges from the P-2 oil/water separator are manually controlled such that if a release of liquids, other than stormwater, was to occur at the dock, it would be contained in the oil/water separator and addressed appropriately (e.g., removed via vac truck, treated, etc.) and in accordance with the National Pollutant Discharge Elimination System (NPDES) permit.

The dock structure includes an "L" shaped concrete float, 40 feet by 14 feet, which is used to moor a spill containment boat and for boom storage. The use of the dock has stayed consistent over time: to transfer fuel products between a vessel or barge and piping originating at the dock. The product is then piped to individual storage tanks contained in Tank Yards 1, 2, or 3.

Gasoline, diesel, and marine fuel oil are transferred across the dock. The maximum draft for vessels is 32 feet and the maximum unloading rate is 7,000 barrels per hour. The transfers between the barge and pipelines are conducted within a containment structure located on the dock designed to capture product that may be inadvertently released during the transfer process. If a release should occur it would be directed to the P-2 oil/water separator and addressed as described above.

3.1.2. P-3 Dock

The P-3 dock was built in approximately 1978 by Time Oil Company on submerged land leased from the State through its Department of State Lands. Shore Terminals is the current holder of the lease with the State. The surface decking and walkway are surrounded by curbing that channels storm water or released liquids into a conveyance line that leads to a 5,000-gallon steel stormwater sump on the upland facility as shown on Figure 4. Stormwater from the sump is pumped to the City of Portland Sanitary Sewer under a City permit. Discharges to the stormwater sump are manually controlled such that if a release of liquids other than stormwater was to occur at the dock, it would be contained in the sump and addressed appropriately in accordance with the City permit.

The dock structure includes an "L" shaped concrete float, 40 feet by 14 feet, which is used to moor a spill containment boat and for boom storage. Gasoline in cans is brought onto the float and used to fuel the boat.

The use of the dock has stayed consistent over time: to transfer fuel products to and from marine vessels into piping and from there to individual tanks. Gasoline, diesel, fuel oil no. 2, and ethanol are received across the dock. The transfers between the barge and piping are conducted within a containment structure located on the dock that would capture product if any were inadvertently released during the transfer

process. A fixed drain collection and processing system is installed in the transfer area and has a collection capacity of approximately 1,680 gallons. Any releases are piped automatically from the collector to the 5,000 gallon steel stormwater sump located on the upland Facility (Figure 4).

3.2. Spill Prevention Planning and Stormwater Control

The Facility maintains several plans, including a Spill Prevention, Control, and Countermeasures (SPCC) plan, a Facility Response Plan (FRP), a Storm Water Pollution Control Plan (SWPCP), and a Dock Ops Operations Manual to provide clear prevention and response actions to mitigate the potential for releases negatively impacting the environment. The plans include programs for mitigating the potential for a release at the docks and procedures for response actions should a spill occur.

Each of these plans is described briefly below to identify the Facility's program for reducing and eliminating sources to the Willamette River via the over water pathway.

3.2.1. Spill Prevention, Control, and Countermeasures

The purpose of the SPCC plan is to help facilities prevent a discharge of oil into navigable waters or adjoining shorelines. The requirements of the plan are codified in 40 Code of Federal Regulations (CFR) Section 112 and consist of:

- Description of the physical layout of the facility, including a facility diagram.
- Listing of the type of petroleum product that is in each container at the Facility and its storage capacity.
- Description of:
    - Discharge prevention measures
    - Discharge drainage controls
    - Counter measures for discharge
    - Methods of waste disposal.
- Information and procedures for reporting a discharge or, if the facility maintains an FRP, reference to the FRP.

Shore Terminals maintains an SPCC plan for the Facility that meets the above requirements and includes the following:

- Professional Engineer Certification.
- Management Approval and Review.
- Record of Reviews.
- Facility information in accordance with 40 CFR, 112.8 (a).
- Tank Tables listing all the aboveground petroleum storage tanks, the capacity of the tanks, and the product stored.
- Prediction of the direction, rate of flow, and total quantity of oil that could be discharged from the Facility as a result of each type of major equipment failure in accordance with 40 CFR, 112.7 (b).

- Description of containment structures and how each structure "Provides Appropriate Containment" in accordance with 40 CFR, 112.7 (c).
- Contingency planning in accordance with 40 CFR, 112.7 (d).
- Description of testing, inspections, and record keeping in accordance with 40 CFR, 112.7 (e).
- Description of personnel training and discharge prevention procedures in accordance with 40 CFR, 112.7 (f).
- Security at the Facility used to further bolster spill prevention, provided in accordance with 40 CFR, 112.7 (g).
- Facility Tank Car and Tank Truck Loading/Unloading Rack in accordance with 40 CFR, 112.7 (g).
- Brittle Fracture Evaluation Requirements in accordance with 40 CFR, 112.7 (g).
- State Discharge Prevention Requirements in accordance with 40 CFR, 112.7 (g).
- Qualified Oil-Filled Operational Equipment in accordance with 40 CFR, 112.7 (g).
- Drainage Diagram in accordance with 40 CFR, 112.8 (b).
- Description of containers at the Facility, including the construction, secondary containment, and rainwater drainage in accordance with 40 CFR, 112.8 (c).
- Description of the Facility transfer operations, pumping, and Facility processes in accordance with 40 CFR, 112.8 (d).
- Evacuation Diagram.
- Piping Diagram.
- Containment Calculation.
- Discharge Prevention Meeting Log.
- Inspection Procedures and Annual Inspection Record.
- Secondary Containment Drainage Log.
- Reportable Spill History Containment and Drainage Planning.

A copy of the Shore Terminals Facility SPCC plan is contained in Appendix A for reference.

3.2.2. Facility Response Plan

The Facility maintains an FRP to demonstrate the Facility's preparedness to respond to a worst case oil discharge, as required by Section 311(j)(5) of the Clean Water Act and codified in 40 CFR 112.20 and 40 CFR 112.21. Along with general introductory information, the Shore Terminals FRP includes the Facility programs for initial response actions, including spill response; procedures for notifications should a release occur; description of response team organization and actions; an incident action plan; sensitive area response tactics; plans for sustained response actions; a Site Health and Safety Plan; the Facility waste management program; and demobilization and post-incident review processes.

A copy of the FRP is included in Appendix B for reference.

3.2.3. Storm Water Pollution Control Plan

In conformance with the Clean Water Act, the U.S. Environmental Protection Agency (EPA) promulgated regulations to issue NPDES Permits for stormwater discharges associated with industrial activity, under the NPDES program, as defined in 40 CFR 122.21 and 40 CFR 122.26. NPDES permits are issued by the state for states that have been delegated NPDES permitting authority, or by the EPA for states that have not been delegated NPDES permitting authority. The NPDES 1200-Z General Permit (General Permit) for Stormwater associated with industrial activity requires the development and implementation of a an SWPCP, as defined in Federal Register Publication, September 1992, EPA 832-R-92-006, *Stormwater Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices*.

In accordance with the 1200-Z General Permit for the Portland Facility, Shore Terminals developed an SWPCP to identify potential stormwater pollution sources and to reduce the potential of pollutants reaching nearby waterways, by establishing procedures and controls to accomplish the following objectives.

1. Identify pollutants that may come in contact with stormwater.
2. Establish measures to prevent pollutants from coming in contact with stormwater.
3. Establish controls to reduce or eliminate the potential for contaminated stormwater being released to the environment.
4. Ensure compliance with the terms and conditions of the General Permit.

The SWPCP includes the following elements:

- Purpose and Scope.
- Facility Information.
- Identification of the Facility stormwater pollution prevention team.
- Identification of potential pollutant sources, including material inventory, spill history, non-stormwater discharges, and supporting facility maps and diagrams.
- Notification, reporting, and response procedures.
- Stormwater monitoring program.
- Preventive measures, source controls, and best management practices.

A copy of the SWPCP is included in Appendix C for reference.

3.2.4. Dock Ops Operations Manual

The Dock Ops Operations Manual provides operational guidance for transfers of oil or hazardous chemical cargoes from vessels. The format and contents are intended to meet the requirements of 33 CFR 154 and 156. The Dock Ops Operations Manual for the Facility includes the following elements:

- Facility description and maps of key elements on the docks.
- Information on the vessel types, sizes, and transfer rates that can be handled at each dock, including dock construction and containment systems.

- Cargo safe handling instructions.
- Product descriptions, safe handling practices, and firefighting procedures.
- Minimum personnel required for transfers and responsibilities of each.
- Duty watchman procedures and personnel.
- Description of the transfer communication system.
- Description of drip and discharge collector systems.
- Description and location of the emergency shutdown system on each dock.
- Detailed description of transfer procedures.
- Training requirements for persons in charge (PICs).
- Reporting requirements.

PICs of oil transfers are personally responsible for having a copy of the Dock Ops Operations Manual at their disposal whenever they conduct transfer operations. The PIC and the terminal operator conducting a transfer are required to comply with published procedures and other guidance contained in the Docks Ops Operations Manual.

A copy of the Dock Ops Operations Manual in place in January 2023 is contained in Appendix D for reference.

3.3. Best Management Practices

The spill prevention plans also describe BMPs to prevent or reduce non-point sources to the Willamette River. These BMPs include structural and non-structural controls, as discussed below and are detailed in the plans contained in Appendices A through C.

3.3.1. Best Management Practices—Structural Controls

The Portland Terminal has a thorough and extensive Facility operations equipment preventive maintenance program for tanks, pipelines and machinery, and as identified above, a Dock Ops Operations Manual for operations at, and product transfers across, the docks. Vessel, vehicle, and mobile equipment maintenance is performed off site. The maintenance and inspection program procedures are kept in the terminal office.

Structural controls associated with the use of the Facility docks and over water operations include the following:

- Pipelines are nested on pipe supports to prevent unnecessary movement that might allow the pipe to fall from the support.
- All piping is configured to allow for expansion, while minimizing abrasion that might cause deterioration of the steel.
- Pipe supports and associated piping are protected against corrosion by exterior coatings. All pipe supports have been designed and installed using applicable engineering techniques. Pipelines and supports are inspected monthly to determine conditions. If a pipeline fails inspection, the Facility repairs or replaces the pipe prior to returning the pipeline to service.

- Product transfers are conducted within a containment system to minimize the potential for leaks, drips, or spills of product to reach the Willamette River.

3.3.2. Best Management Practices—Non-structural Controls

The terminal operators perform inspections daily, weekly, monthly, annually, and other additional inspections. These inspections are detailed in the SPCC and SWPCP plans and inspections related to over water operations include the following elements:

- Product pipelines, terminal operations, and non-mobile machinery associated with the docks are inspected during the daily terminal inspections by the operators.
- Containment dikes are inspected on a monthly basis and prior to discharges to the P-2 oil/water separator or 5,000-gallon steel stormwater sump near the P-3 dock to prevent the release of oil into navigable waters.
- Facility equipment, including ASTs, is inspected daily to verify the integrity of each item.
- Operators inspect the product transfer as well as bulk storage container areas daily, and promptly correct any operations or facilities that show leakage.

4.0 CONCLUSIONS AND RECOMMENDATION

Shore Terminals maintains multiple detailed plans, including the SPCC, FRP, SWPCP, and Dock Ops Operations Manual, to prevent the release of contaminants to the Willamette River during its over water operations. The success of these plans is demonstrated by the limited number of releases that have occurred during the past 23 years that Shore Terminals has been operating the Facility, and the quick response time for these releases, which resulted in a cumulative total of less than one gallon of hydraulic fluid reaching the river near the P-2 dock and 75 gallons of jet fuel reaching the river near the P-3 dock, as described in Section 2.3. The release from the P-3 dock occurred approximately 20 years ago and there has not been an over water release of product reaching the river from this dock since that time. The one gallon of hydraulic fluid is the only release that reached the river from the P-2 dock over water operations in the 23 years of Shore Terminals' operations at the Facility.

Based on the maintenance and implementation of the spill prevention programs at the Facility and their demonstrated success, the over water pathway needs no further source control evaluation or control measures.

5.0 REFERENCES

Apex, 2015. *Source Control Evaluation. Shore Terminals, LLC Portland Facility Portland, Oregon.* March 16, 2015.

DEQ, 2002. *Voluntary Cleanup Agreement No. ECVC-NWR-01-15* (VCP Agreement; Oregon Department of Environmental Quality, 2002).

DEQ, 2009. Source Control Agreement LQVC-NWR-08-14.

FIGURES

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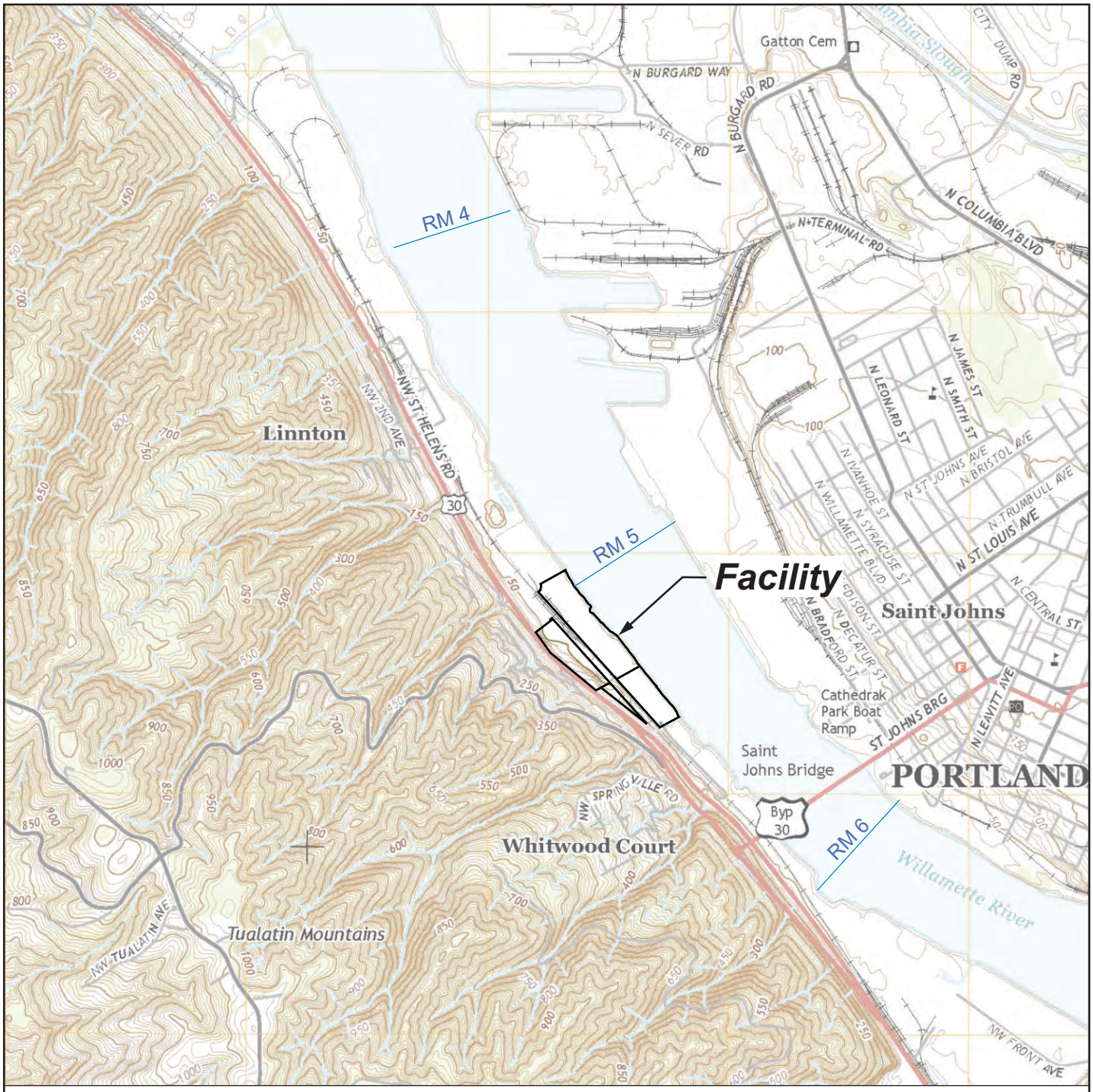

Base map prepared from USGS 7.5-minute quadrangle of Linnton, Oregon, dated 2014, as provided by Topozone.

0 2,000 4,000

Scale in Feet

N

Facility Location Map

Over Water Pathway
Source Control Evaluation Report
Shore Terminals LLC Portland Facility
Portland, Oregon

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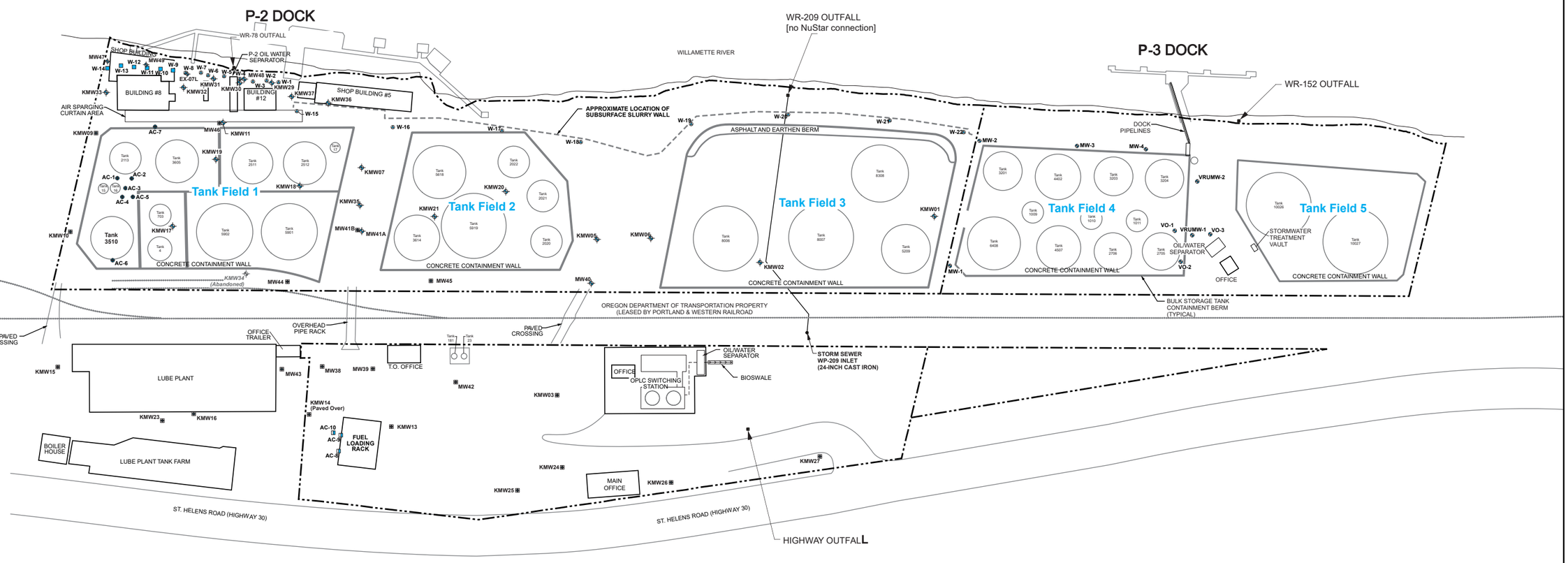
Project Number	019001-010-08	Figure 1
January 2023		



Legend:

- **MW-1** Monitoring Well Location (Time Oil; Shallow Sand Unit)
- **AC-1** Monitoring Well Location (Shore Terminals; Shallow Sand Unit)
- **AC-8** Monitoring Well Location (Shore Terminals; Deep Sand Unit)
- **KMW11** Monitoring Well Location (ExxonMobil; Shallow Sand Unit)
- **MW41B** Monitoring Well Location (ExxonMobil; Deep Sand Unit)
- **W-1** Groundwater Extraction Well Location (ExxonMobil; Currently Used for Monitoring Only)
- **DPW-10** Groundwater Extraction System Well Location (ExxonMobil; Currently Used for Monitoring Only)
- Property Boundary

NOTE: AS/SVE System and Associated Above Ground Piping Were Removed in June 2018

0 200 400

Approximate Scale in Feet

NOTE: Base map prepared from a Site Map by Acton Mickelson Environmental, Inc., 11-29-2005, a Spill Prevention, Control, and Countermeasure Plan, Figure 2 (Site Plan) by Hart Crowser , Inc., 10-03, and a recent aerial photograph from Google.com.

Site Plan

Over Water Source Control Evaluation Report
Shore Terminals, LLC Portland Facility Portland, Oregon

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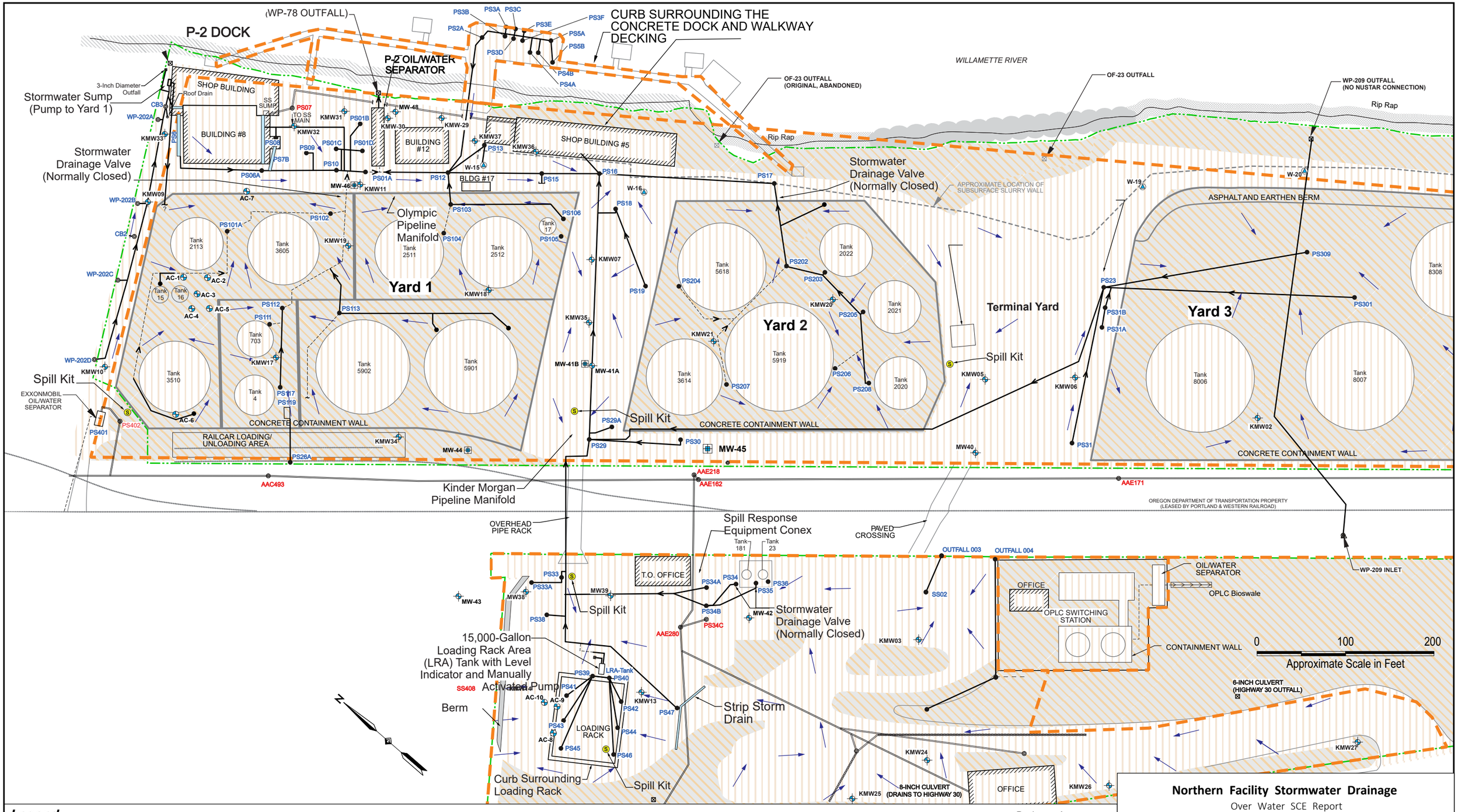
Project Number	019001-010-08	Figure 2
December 2022		



Legend:

- Property Boundary
- PS07 — Catch Basin/Manhole Location Sanitary Sewer Line
- PS34B — Catch Basin/Manhole Location Storm Sewer Line
- Surface Water Flow
- Outfall
- Inlet
- Storm Sewer Line and Flow
- Unconfirmed Underground Piping
- Sanitary Sewer Line and Flow
- Trench Drain
- Slurry Wall
- Impervious Area
- Pervious Area
- Bioswale
- MW-3 — Monitoring Well Location (Time Oil or Ash Creek)
- KMW11 — Monitoring Well Location (Exxon Mobil; Shallow Sand Unit)
- MW-41B — Monitoring Well Location (Exxon Mobil; Deep Sand Unit)
- W-1 — Groundwater Extraction Well Location (Exxon Mobil) (Currently Used for Monitoring Only)
- Drainage Area Boundary
- Spill Kit (Spill Kit Content See Page 5-7 for description of spill kit contents.
- French Drain

Northern Facility Stormwater Drainage

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Portland, Oregon

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Project Number	019001-010-03	Figure
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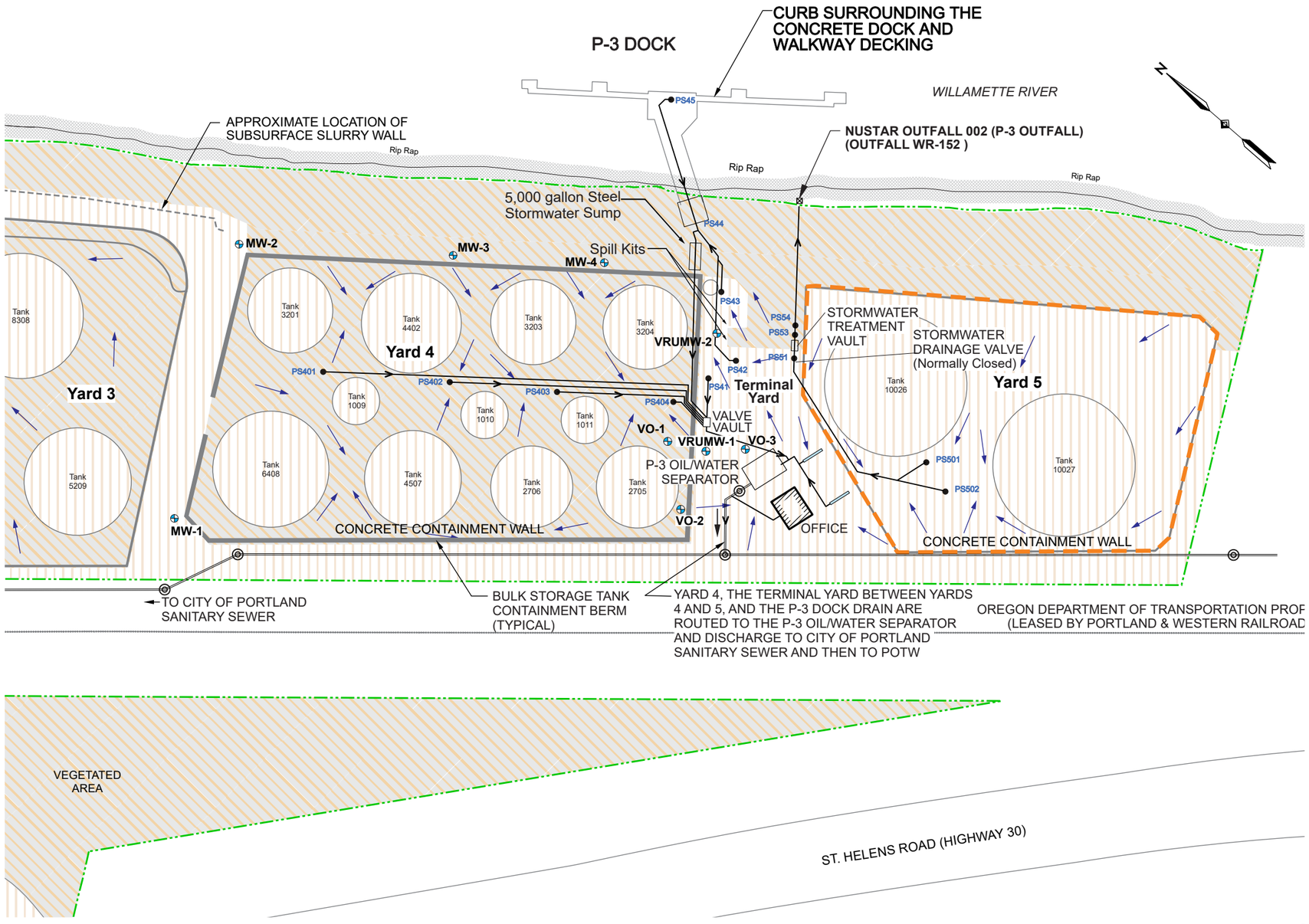

Legend:

- Property Boundary
- PS07 Catch Basin/Manhole Location Sanitary Sewer Line
- PS34B Catch Basin/Manhole Location Storm Sewer Line
- Outfall
- Storm Sewer Line and Flow
- Sanitary Sewer Line and Flow
- Trench Drain
- Slurry Wall
- Impervious Area
- Pervious Area
- Drainage Area Boundary
- Surface Water Flow
- MW-3 Monitoring Well Location (Time Oil or Ash Creek)
- KMW11 Monitoring Well Location (Exxon Mobil; Shallow Sand Unit)
- MW-41B Monitoring Well Location (Exxon Mobil; Deep Sand Unit)
- W-1 Groundwater Extraction Well Location (Exxon Mobil) (Currently Used for Monitoring Only)

NOTE: Base map prepared from a Site Map by Acton Mickelson Environmental, Inc., 11-29-2005, Facility Drainage Maps, Figure 2 (Site Plan) by Hart Crowser, Inc., 10-03, and a recent aerial photograph from Google.com.

0 100 200

Approximate Scale in Feet

Southern Facility Stormwater Drainage

Over Water SCE Report
Shore Terminals LLC Portland Facility
Portland, Oregon

GeoEngineers

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APPENDICES

GeoEngineers

APPENDIX A
Spill Prevention, Control, and Countermeasures Plan

APPENDIX C
SPCC PLANS

Last Revised: March 15, 2022

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Figure C-1 - Professional Engineer Certification

Figure C-2 - Management Approval and Review

Figure C-3 - Record of Reviews

Figure C-4 - SPCC Plan

Figure C-5 - Tank Tables

Figure C-6 - Addendum

Figure C-7 - Drainage Diagram

Figure C-8 - Evacuation Diagram

Figure C-9 - Piping Diagram

Figure C-10 - Containment Calculation

Figure C-11 - Discharge Prevention Meeting Log

Figure C-12 - Inspection Procedures

Figure C-13 - Annual Inspection Record

Figure C-14 - Secondary Containment Drainage Log

Figure C-15 - Reportable Spill History

Figure C-16 - Containment and Drainage Planning

FIGURE C-1 - PROFESSIONAL ENGINEER CERTIFICATION

40 CFR, Part 112.3(d) Professional Engineer Certification	
Being familiar with the provisions of 40 CFR, Part 112, I attest to the following: • I am familiar with the requirements ofthis part • I or my agent has visited and examined the Facility • The Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part • Procedures for required inspections and testing have been established • The Plan is adequate for the Facility	
Printed Name of Registered Professional Engineer:	Ian R. Maguire
Signature of Registered Professional Engineer:	DRAFT
Date:	DRAFT
Registration No.:	80002
Seal: DRAFT	

FIGURE C-2 - MANAGEMENT APPROVAL AND REVIEW

I hereby approve the contents of the Facility's Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) and have the authority to commit the necessary resources to implement the SPCC Plan, as set forth in this document, in accordance with the federal requirements of 40 CFR Part 112.			
Name:	Ryan Groesbeck	**Signature:**	**DRAFT**
Title:	Terminal Manager	**Date:**	DRAFT

FIGURE C-3 - RECORD OF REVIEWS

Date of Review[1]		Will Plan Need Amendment?[2]	Reviewer's Signature[3]	Reason for Amendment[4]	Date of Amendment (or N/A)
Full	Partial	Yes / No			
7/15/2011		Yes	Stephan Rosen / Michael Poirier	Update personnel / content of SPCC per EPA inspection	7/13/2011
9/23/2013		Yes	Steve Kober	Update tank content in Figure C-5 -Tank Tables	9/23/2013
	6/26/2014	Yes	Michael J Smith	Dirt work was completed on Tank Yard 1 containment and the new volume was added to Figure C-5	6/26/2014
2/2/2015		Yes	Daniel Butler, PE	Update SPCC per DEQ requests.	2/2/2015
9/14/2016		No	Steve Kober	No amendment needed following annual review.	
9/29/2017		Yes	Jeff Hibner	Administrative Update - Personnel update and tank tables records clarification.	12/19/2017
9/24/2018		Yes	Bill Spackman	Administrative Update - Personnel and tank table updates.	11/1/2018
7/25/2019		Yes	Ian Maguire, PE	5-Year PE Review/Update tank contents and containment volume calculations.	9/3/2019
3/7/2022		Yes	Ian Maguire, PE	Update tank contents and containment calculations. Updated plan to include pump area lining, VCU saturator tank, and biodiesel filters.	

[1] A full review of the plan must be performed at least once every five years.

[2] Any addition of new sources of significant materials or a change in design, construction, operation or maintenance, which will have a significant effect on the potential to contaminate storm water runoff from this facility will require an amendment to this plan, including a description of controls to be used to minimize exposure of such materials to storm water runoff. If amendment of the plan is required as the for these reasons, or as the result of a Site Compliance Evaluation, amendment of the plan must be completed.

[3] Reviewer's printed name indicates that he/she has completed review and evaluation of this plan on the date indicated and will or will not amend the plan as a result, as indicated.

[4] Briefly describe reasons for plan amendment, as required in footnote 2. For administrative changes not subject to the criteria identified in footnote 2, such as updates to names or phone numbers, regulatory changes, or changes in company policies, these will be entered in the Record of Changes Form (**FIGUREC-1**).

FIGURE C-4 - SPCC PLAN

FACILITYINFORMATION			
Name of Facility:	Portland Terminal	**Type of Facility:**	Onshore/Non-Production
Location of Facility:	9420 N.W. St. Helens Road Portland, OR 97231	**Name & Address of Owner or Operator:**	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257
Latitude/ Longitude:	45° 35' 19.7" N 122° 46' 23.2" W	**Designated Personnel Accountable for Oil Spill Prevention at the Facility:**	Ryan Groesbeck
Personnel Accountable for Training at the Facility:	HSE Representative		

FIGURE C-4 - SPCC PLAN, CONTINUED

FACILITYINFORMATION
General Facility Description
This site is a petroleum bulk tank farm and marine terminal consisting of aboveground storage tanks ranging in size from 120 to 110,000 barrels. The facility is used for bulk storage and distribution of petroleum hydrocarbons, biodiesel fuels, and ethanol. The facility receives and ships product by pipeline, tank truck, and waterborne vessels. Products transferred through this facility are non-persistent oils consisting of gasoline, fuel additives, distillates, ethanol, biodiesel and renewable diesel.

40 CFR, 112.7 (a) General Requirements

40 CFR, 112.7
(a) GENERAL REQUIREMENTS
(1) Include a discussion of your facilities conformance with the requirements listed in this part
• The specific requirements are detailed in bulleted responses below.
(2) Comply with all applicable requirement listed in this part. Your Plan may deviate from some requirements if you provide additional protection or explanation
• All requirements are addressed below. Where deviations may occur, an equivalent environmental protection is described in detail.
(3) Describe in your Plan the physical layout of the facility and include a facility diagram. You must also address in your plan:
• The facility is an Onshore/Non-Production facility; refer to FIGURE C-7 for the facility diagram.
I. The type of oil in each container and its storage capacity
• Refer to FIGURE C-5 for the Tank Table.
ii. Discharge prevention measures
• Entire plan.
iii. Discharge or drainage controls
• Refer to APPENDIXC 40 CFR 112.8 (b).
iv. Counter measures for discharge
• Refer to SECTION 2 of the Facility Response Plan (FRP).
v. Methods of disposal
• Refer to SECTION 7.4 Waste Management of the FRP.
vi. Contact list and phone numbers
• Refer to FIGURE 3.1-5 and FIGURE 3.1-6 of the FRP.
(4) Unless you have submitted a response plan, provide information and procedures to report a discharge
• FRP has been submitted to the regional administrator.
(5) Unless you have submitted a response plan, describe procedures you will use when a discharge occurs
• FRP has been submitted to the regional administrator.

40 CFR, 112.7 (b) Prediction of The Direction, Rate of Flow, And Total Quantity of Oil Which Could Be Discharged From The Facility as A Result of Each Type of Major Equipment Failure

40 CFR, 112.7
(b) PREDICTION OF THE DIRECTION, RATE OF FLOW, AND TOTAL QUANTITY OF OIL WHICH COULD BE DISCHARGED FROM THE FACILITY AS A RESULT OF EACH TYPE OF MAJOR EQUIPMENT FAILURE
• For tanks, Refer to Tank Table, FIGURE C-5.
• Tank Overfill: If tank 10026 were to be overfilled, which is unlikely due to overfill alarms, it would likely be at a rate of 5,600 gallons per minute (gpm). Material would flow into Berm #5; unrestricted flow would be northeast. Flow time until isolation is estimated at 3 minutes; total volume estimated at 16,800 gallons.
• Rail Offloading Spill: If a spill were to occur during railcar unloading it would likely be at a rate of 44 gallons per minute (gpm). Material would flow into drip pans beneath the railcars. Flow time until isolation is estimated at 1 minute; total volume estimated at 44 gallons.
• Truck Loading Spill: If a spill were to occur during truck loading it would likely be at a rate of 500 gallons per minute (gpm). Flow time until isolation is estimated at 1 minute; total volume estimated at 500 gallons. Material would flow into the truck rack containment system; the truck rack containment system includes an underground 15,000-gallon spill containment tank to capture a potential release before the system drains to the P-2 oil/water separator. Discharge from the 15,000-gallon spill containment tank to the P-2 oil/water separator is controlled by a discharge valve, which is kept in the closed position when not in use.
• Drum Spill: If a drum spill were to occur within the hazardous waste storage area, up to 55 gallons could be released from a leak in the drum. Material would flow into secondary containment pallets beneath the drums.
• Truck Ethanol and Biodiesel Offloading Spill: Unloading of ethanol and biodiesel occurs at the west corner of Tank Yard 1 near tank 3510 as shown on FIGURE C-7a. If a spill were to occur in the ethanol and biodiesel offloading area, it would likely be at a rate of 100 to 200 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 100 to 200 gallons. Material would flow into the asphalt concrete bermed containment area surrounding the offload area equipped with a low-point sump. The sump is drained by pump to Tank Yard 1; catch basins in Tank Yard 1 drain to the P-2 oil/water separator. Unrestricted flow in the driveway area (outside of the berm area) would be northeast and enter catch basin CB-2 which drains a sump at the Shop Building adjacent to Building 8 before being pumped to Tank Yard 1; catch basins in Tank Yard 1 drain to the P-2 oil/water separator.
• Gasoline and Diesel Offloading Spill: Unloading of ethanol and diesel occurs at the east corner of the Operations Office (Upper Terminal Drainage Area) as shown on FIGURE C-7a. If a spill were to occur in this offloading area, it would likely be at a rate of 100 to 200 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 100 to 200 gallons. Gasoline or diesel spilled from the connection to the offload pumps would flow into a concrete bermed containment area, a spill outside of the containment area would flow to the southwest and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Gasoline Offloading Spill: Unloading of gasoline occurs infrequently at the south corner of Tank Yard 2 (P-2 Drainage Area) as shown on FIGURE C-7a, near the hazardous waste storage area. If a spill were to occur in this offloading area, gasoline would flow unrestricted to the northeast. Catch basins in the P-2 Drainage Area drain to the P-2 oil/water separator.
• Vapor Combustion Unit Saturation Tank Spill: The saturation tank is a double-walled steel located east of the Operations Office (Upper Terminal Drainage Area) as shown on Figure C-7a. If a spill were to occur from the VCU Saturation Tank, material would flow unrestricted over the asphalt-paved surrounding area to the southeast and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Biodiesel Filter Spill: Biodiesel is filtered prior to loading at the Truck Loading Rack, the filters are located east of the Operations Office (Upper Terminal Drainage Area) as shown on Figure C-7a. If a spill were to occur at the biodiesel filters, it would likely be at a rate of 500 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 500 gallons. Material would flow into the concrete bermed containment area around the filters. If the volume is in excess of the containment capacity of the concrete bermed area, biodiesel would spill onto the asphalt-paved surrounding area and flow to the northwest and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Dock Pumps/Kinder Morgan Piping Manifold Area: The manifold area is located between Tank Yards 1 and 2 is lined with a sealed HDPE liner and surrounded with a shallow concrete curb. If a spill occurs in either piping manifold area, it would be up to 2,800 gpm . Flow time until isolation is estimated at 2 to 3 minutes; the total volume estimated would be up to 8,400 gallons. Material would flow into the lined areas; each manifold area contains a low point sump. The sump for the Kinder Morgan Piping Manifold Area is located along the southeast wall of Tank Yard 1, the sump is drained to Tank Yard 1 by pump, which is manually activated. Catch basins in Tank Yard 1 drain to the P-2 oil/water separator. is controlled by a discharge valve, which is kept in the closed position when not in use. If the volume spilled exceeds the capacity of the lined area and sump, unrestricted flow in the driveway area between Tank Yards 1 and 2, flow would be west and enter catch basin PS29A adjacent to the manifold area, catch basin PS29A drains to the P-2 oil/water separator.

	• Tank Yard 2 Pump Manifold Spill: The pump manifold area is located between Tank Yards 1 and 2, at the northwest corner of Tank Yard 2. The area is lined with a sealed HDPE liner and surrounded with a shallow concrete curb. If a spill occurs in the pump manifold area, it would likely be at a rate up to 2,800 gpm. Flow time until isolation is estimated at 2 to 3 minutes; the total volume estimated would be up to 8,400 gallons. Material would flow into the lined manifold area, which contains a low point sump. The sump is drained to Tank Yard 2 by pump, which is manually activated. Catch basins in Tank Yard 2 drain to the P-2 oil/water separator; drainage from Tank Yard 2 to the P-2 oil/water separator is controlled by a discharge valve, which is kept in the closed position when not in use. If the volume spilled exceeds the capacity of the lined area and sump, unrestricted flow in the driveway area between Tank Yards 1 and 2, flow would be west and enter catch basin PS29A adjacent to the manifold area, catch basin PS29A drains to the P-2 oil/water separator.

40 CFR, 112.7 (c) Provide Appropriate Containment

40 CFR, 112.7	
(c)	**PROVIDE APPROPRIATE CONTAINMENT**
	• Refer to Tank Table, FIGURE C-5.
	• Tank Overfill: Spilled oil (16,800 gallons estimated) from an overflow of tank 10026 would be contained within the berm #5, which provides 5,444,729 gallons of secondary containment.
	• Rail Offloading Spill: Spilled oil (44 gallons estimated) from rail offloading operations would initially flow into the drip pans (59 gallons containment) beneath the railcars.
	• Truck Loading Spill: Spilled oil (500 gallons estimated) from truck loading operations would flow into the truck rack containment system, which provides 20,008 gallons of containment. In addition, the catch basins in the containment system are routed to an underground 15,000-gallon spill containment tank before draining to the P-2 oil/water separator. The 15,000-gallon containment tank at the Loading Rack is equipped with a high-level alarm which will notify Company Operations personnel when the tank reaches a specific level. Company Operations personnel complete a visual inspection of the containment tank before the contents are transferred to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located at the Truck Loading Rack.
	• Drum Spill: Drums are stored on secondary containment pallets within the Hazardous Waste Storage Area. Each pallet provides sufficient containment (66 gallons per pallet) for the drums stored on the pallets. A spill kit containing PPE and oil absorbent materials is located at the Hazardous Waste Storage Area.
	• Truck Ethanol and Biodiesel Offloading Spill: The ethanol and biodiesel offloading area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. The ethanol or biodiesel spilled during offloading operations would flow into the ethanol and biodiesel offloading containment area, which provides 4,497 gallons of containment. The containment area sump and catch basins downgradient of the ethanol and biodiesel offloading area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the offloading area. In the event a spill of ethanol enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.
	• Gasoline and Diesel Offloading Spill (Upper Terminal by VRU): The gasoline and diesel offloading area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. The gasoline or diesel spilled during offloading operations would flow into the gasoline and diesel offloading containment area, which provides 212 gallons of containment. Gasoline or diesel spilled outside the containment (from the connection with the tanker truck) would be expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the gasoline and diesel offloading area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area.
	• Gasoline Offloading Spill (North Facility adjacent to Yard 2): The gasoline offloading area are subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline from gasoline offloading operations would spread laterally on the asphalt-paved area surrounding the offloading area into a catch basin located approximately 215 feet east of the gasoline offloading area. The catch basins downgradient of the gasoline offloading area are routed to the P-2 oil/water separator. Additionally, a Spill Kit containing PPE and oil absorbent materials is located near the offloading area. A drip pan is used during transfer at the connection point.
	• Vapor Combustion Unit Saturation Tank Spill: The saturation tank was constructed in 2021 and is a double-walled steel tank that provides 110% containment capacity. In the event that a spill from the Saturation Tank occurs, spilled material will drain laterally on the relatively flat asphalt-paved area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Saturation Tank are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the Biodiesel Filter Area. In the event a spill of biodiesel enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.

	• Biodiesel Filter Spill: The biodiesel filter area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Biodiesel pilled during operations would flow into the containment area surrounding the biodiesel filters, which provides approximately 445 gallons of containment capacity. Spilled volume in excess of the containment capacity will overflow the concrete containment curb and drain laterally on the relatively flat asphalt-paved area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the biodiesel filters are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the Biodiesel Filter Area. In the event a spill of biodiesel enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.
	• Dock Pumps/Kinder Morgan Pipeline Manifold Area: A spill in the Kinder Morgan Pipeline Manifold Area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline, diesel, or biodiesel would spread onto the HDPE lined area and drain to the area sump, the lined area is surrounded by a concrete curb, the sump and HDPE lined containment area provides approximately 3,100 gallons of containment. If a spill volume exceeds the containment capacity or is not contained, flow would be expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Kinder Morgan Piping Manifold Area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area. In the event that ethanol is released, the ethanol should be retained within the lined sump area or inside Yard 1. Ethanol will not be removed by the oil/water separator; therefore, the discharge from the P-2 oil/water separator to Outfall 001 should be closed until the ethanol is removed.
	• Tank Yard 2 Pump Manifold Spill: A spill in the Tank Yard 2 Area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline, diesel, or biodiesel would spread onto the HDPE lined area and drain to the area sump, the lined area is surrounded by a concrete curb, the sump and HDPE lined containment area provides approximately 370 gallons of containment. If a spill volume exceeds the containment capacity or is not contained, flow would be expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Tank Yard 2 Pump Manifold Area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area. • In the event that ethanol is released, the ethanol should be retained within the lined sump area or inside Yard 1. Ethanol will not be removed by the oil/water separator; therefore, the discharge from the P-2 oil/water separator to Outfall 001 should be closed until the ethanol is removed.

40 CFR, 112.7 (d) Contingency Planning

40 CFR, 112.7	
(d) PRACTICABILITY OF SECONDARY CONTAINMENT	
(1) An oil spill contingency plan following the provisions of part 109 of this chapter	
	• Piping and Associated Appurtenances: A majority of the aboveground and buried piping at the facility falls within secondary containment structures, such as tank dikes, curbed pads, and other containment structures. For the limited amount of aboveground piping that exists outside of containment, secondary containment is impracticable for the piping runs that span areas of operational equipment, vehicle rights-of-way, and other ancillary features (e.g., foundation supports and fencing).
	• Offloading of refined products is performed on a scheduled basis. The truck drivers must be trained in operation of unloading equipment prior to conducting unloading operations. Prior to initiating the offload, Company operations personnel verify that there is sufficient volume in the respective tankage to receive the entire load and notifies the driver to start the offload pump. Company Operations personnel monitor the level in the tank to prevent overfilling. There are Spill Kits at each offloading station containing sorbent pads and related equipment. In the event of a spill, the appropriate countermeasures (e.g., deployment of sorbents, portable barriers, and use of portable pumps and/or vacuum trucks) would be used to contain petroleum product prior to reaching navigable waters or adjoining shorelines. Catch basins in the vicinity of offloading stations are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a 7,000-gallon skimmer tank, sufficient to contain the expected release quantities of gasoline and diesel. Ethanol will not be removed by the oil/water separator. Therefore, in the event that ethanol is released, the discharge valve from the P-2 oil/water separator to Outfall 001 should be closed immediately to prevent discharge to the river and the ethanol should be contained and removed with active measures (e.g., vacuum truck).

40 CFR, 112.7 (e) Inspections, Tests, and Records

40 CFR, 112.7	
(e)	**INSPECTIONS, TESTS, AND RECORDS**
	• Monthly inspections are performed which include checklist items covering storage tanks, pumps, pipelines, valves, fittings, fence perimeter and general security.
	• Product handling equipment is inspected for signs of leakage or potential leakage. Spill containment impoundments are inspected to verify for the presence of oil.
	• Terminal personnel perform regular inspections of facility equipment, operations and spill containment areas. Inspections are performed in accordance with written procedures detailed on each inspection sheet.
	• Bulk Storage Tanks internal and external inspection frequencies shall be in accordance with the recommendations of the latest edition of API 653. Small Storage Tanks internal and external inspection frequencies shall be in accordance with the recommendation of the latest edition of STISP001.
	• An API 653 inspection includes performing non-destructive testing of the tank steel to verify corrosion conditions. The API 653 inspection reports are maintained at the main office of the terminal manager.
	• When measurements or tank conditions are found to be out of API 653 specifications, the necessary repair work will be completed prior to returning the tank to operational service.
	• Inspection and testing records are made part of this plan and are kept at the main office of the terminal manager. All inspection records associated with this SPCC plan will be maintained for a period of three years.
	• The facility manager or his designee will sign the inspections required by this SPCC Plan. Examples of these inspections can be found in this plan.
	• Liquid level gauging devices are regularly tested to ensure proper operation. Maintenance records are kept at the facility.
	• Audio/visual/olfactory (AVO) procedures are used for leak detection. The criteria for suspending operation while leak detection or any other spill control systems are inoperative is specified in the NuStar Pipeline Operation and Maintenance Manual under abnormal operation and deviation from normal operating procedures. The operation system with product movement is suspended unless a safe alternative spill control system is identified and in place or until the system has been repaired.
	• When a leak alarm is triggered, operators are to suspend operations to isolate the affected location. Operations are to remain stopped until the leak location is repaired or inspected and found to actually be in satisfactory condition.
	• Integrity testing will follow the guidelines listed above and examples of these records documenting the testing is stored at the Main Office. Annual survey of pipelines is conducted according to 49CFR 195.573(a)(1) which interval not exceeding 15- months. Aboveground storage tanks are to be tested in accordance with API RP 651 "Cathodic Protection of Above Ground Storage Tank Bottoms" per paragraph 49CFR 195.573(d).

40 CFR, 112.7 (f) Personnel Training and Discharge Prevention Procedures

40 CFR, 112.7	
(f) PERSONNEL TRAINING AND DISCHARGE PREVENTION PROCEDURES	
(1) PERSONNELTRAINING	
	• Annually the Company will provide update training in the form of on-site meetings with all employees. Employee training will include review and instruction in each of the following categories:
	• The Company has developed an employee-training program that addresses proper operation and maintenance of equipment to prevent the release of oil into navigable waters.
	• The Company provides initial awareness training to all employees prior to the employee commencing operational duties. The employees are informed of the SPCC Plan, the purpose of the plan, and proper pollution prevention practices.
	• The overall purpose of this training program is ensuring that employees are kept informed of current operational procedures, and applicable spill prevention methods.
	• The Company provides review of the Terminal's SPCC Plan, review of new revised regulations / laws / instructions, training on safe handling of hazardous materials, review of product storage and transfer operations, and training to recognize and identify pollution prevention opportunities.
(2) DESIGNATED PERSON	
	• Refer to Facility Information above for the “Designated Personnel Accountable for Oil Spill Prevention at the Facility”
(3) SPILL PREVENTION BRIEFINGS	
	• In addition to the regular employee training, the Company will schedule annual briefings to assure that employees have current knowledge of spill prevention techniques and associated equipment.
	• The record of these briefings will be documented using the form included with this SPCC Plan.
	• Employees are instructed in applicable pollution control laws, rules, and regulations.

40 CFR, 112.7 (g) Security

40 CFR, 112.7	
(g) SECURITY	
(1) FENCES AND GATES	
	• This facility is fully fenced.
	• Terminal personnel monitor all persons entering the site 24 hours a day.
	• All security gates are securely closed to prevent unauthorized entry. A security guard is stationed at the front gate from 06:30 to 15:30 (Monday- Friday). When security guard is not present, terminal operations monitor the gate via the intercom system located at the gate, which is connected to operation's phone/radio.
(2) CONTAINER VALVES / DRAINS	
	• Piping and valves associated with storage tanks are configured such that product may only be discharged through the DOT pipeline system, tank truck loading rack or marine dock, except when emptying tank with portable pumping equipment.
	• Post shut-down residual drain out from pipes and valves are minimized through the use of OSHA Lock Out Tag Out procedures. All pipes and valves are identified in isolation lists for each tank and line in this facility.
	• The dispensing of petroleum products at the Facility are controlled by Company personnel and is only conducted by authorized personnel.
	• All tank water draw-off valves are secured in the closed position and the entire facility is behind locked gates to prevent unauthorized access.
	• These valves will remain closed except when discharging tank bottom water.
(3) STARTER PUMPS	
	• The Company secures all gates and does not allow unauthorized access to the loading rack or marine dock.
	• Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. Authorized persons must key in personal ID and company ID to gain access to the site and to start pumping.
	• Pump starter controls are not typically in a non-operating or non-standby status. If this situation occurs, the controls will be locked.
(4) LOADING / UNLOADING CONNECTIONS	
	• Terminal personnel or other authorized persons inspect and assist in all loading of product at the facility.
	• Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. The Company secures all gates and does not allow unauthorized access to the Facility after normal business hours.
	• When Facility piping, including loading/unloading connections, is not in service, all openings and connections are securely capped and/or blank flanged to prevent accidental discharge of petroleum products.
(5) FACILITYLIGHTING	
	• Lighting is provided throughout the tank farm to illuminate the piping connections at each storage tank and pump manifold areas.
	• This lighting assists terminal personnel while working after dark. It also allows non-operating personnel such as truck drivers or police to determine if there are unauthorized persons within the storage tank areas.
	• This lighting completely illuminates the areas where loading connections are made.
	• The Company has installed lighting at all entrance gates and in the areas of the marine unloading dock.

40 CFR, 112.7 (h) Facility Tank Car and Tank Truck Loading/Unloading Rack

40 CFR, 112.7	
(h) FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK	
(1) TRANSFER AREA DRAINAGE	
	• The transfer areas are protected by a collection system, which is connected to the oil/water separator system in place. The deliveries by marine come in at both docks with collection drains at each dock. The pipeline manifolds are in areas that are curbed or graveled, and they ultimately drain to basins, which are connected to the oil/water separator.
	• Deliveries by truck consist of additives, ethanol, and biodiesel, which are placed into tanks within containment areas. The truck rack is a covered area and provides 20,007 gallons of secondary containment, which exceeds the 9,000-gallon maximum truck tanker capacity.
	• There is no rail rack at this facility. There is a rail offloading area in which rail cars are emptied by suction from the bottom of the cars. Spillage is contained underneath the cars (59 gallons containment).
(2) INTERLOCKED WARNING LIGHT OR PHYSICAL BARRIER	
	• There is an automatic foam fire suppression system on the truck loading rack.
	• There is an emergency shutdown system (ESD) at the loading rack, which can be activated automatically by fire detectors or manually by push buttons.
	• Warning signs are visible at the loading rack to remind drivers to unhook the hose prior to departure.
	• Drivers do not receive permission to load until the overfill protection system is connected to the truck and operating properly.
	• Truck rack is equipped with a scully overfill protection system which would shut down the loading automatically if it exceeded the level control setting to prevent overflow. It is tied directly to the rack control system and two sensing modules. The two separate sensing modules are for grounding of the truck and high product levels (overfill protection). There are indicator permissive lights for the drivers to know when both of these modules are connected properly.
(3) TRUCK DRAIN/OUTLET EXAMINATION	
	• The lower most drain and all outlets are inspected for discharges prior to filling and departure of all trucks and, if necessary, they are tightened, adjusted, or replaced to prevent liquid discharges while in transit. Drivers will be responsible for this inspection.

40 CFR, 112.7 (i) Brittle Fracture Evaluation Requirements

40 CFR, 112.7	
(i) BRITTLE FRACTURE EVALUATION REQUIREMENTS	
	• The storage containers at this Facility are currently in light liquid service, there have been no major tank repairs or modifications that might affect the structural integrity of the steel.
	• Facility management is aware that in the event modifications are made to storage containers, an evaluation must occur to determine if the structural integrity of the container is sufficient to safely manage the material to be stored and prevent brittle fracture or catastrophic failure.
	• The Facility follows a program to inspect all storage tanks according to API 653 standards. The API 653 inspections will include structural steel evaluation.

40 CFR, 112.7 (j) State Discharge Prevention Requirements

40 CFR, 112.7	
(j) STATE DISCHARGE PREVENTION REQUIREMENTS	
	• The facility has a Facility Response Plan (FRP) that are reviewed and approved by Oregon Department of Environmental Quality (DEQ).

40 CFR, 112.7 (k) Qualified Oil-Filled Operational Equipment

40 CFR, 112.7
(k) QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT
• There are two oil filled transformers on site that are owned and managed by the utility company. Visual external inspection is conducted on the transformer alongside daily AVO inspection.
(1) Qualification Criteria—Reportable Discharge History
• Not Applicable
(2) Alternative Requirements to General Secondary Containment
• Not Applicable
(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and
• Not Applicable
(ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:
• Not Applicable
(A) An oil spill contingency plan following the provisions of part 109 of this chapter.
• Not Applicable
(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.
• Not Applicable

40 CFR, 112.8 (a) General Requirements

40 CFR, 112.8
(a) GENERAL REQUIREMENTS
• The specific requirements are detailed in bulleted responses below. This Plan meets the general requirements listed under 40 CFR 112.7.

40 CFR, 112.8 (b) Facility Drainage

40 CFR, 112.8	
(b) FACILITY DRAINAGE	
(1) DRAINAGE FROM DIKED AREAS	
	• Company personnel are directed to not discharge storm water if contamination is found.
	• Drainage from each diked area flows to the lower portion of the dike area and is controlled by valving, which diverts the flow to the on-site API oil/water separator. The Upper Drainage Area, the P-2 Drainage Area, including Tank Yards 1 through 3 flow to the main oil/water separator (P-2 oil/water separator) before discharge to the Willamette River via Outfall 001 (WR-78). Tank Yard 4 flows to the P-3 oil/water separator and then is released to the City of Portland sewer. Tank Area 5 flows through a series of Contech filters before discharge to the Willamette River via Outfall 002 (WR-152).
	• All drain valves associated with containment systems will remain closed except when discharging. Drainage of containment areas will be performed manually.
	• Prior to discharge, Terminal personnel will inspect accumulated storm water, and verify that water is clear and free of oil sheen. If sheen is observed, Operations personnel proceed to treat water using sorbents and/or diverting to oil/water separator. Operators must fill out Secondary Containment Drainage Log form before any discharge occurs (See Figure C-14).
(2) DRAIN VALVES	
	• The drain valves are constructed of steel and are manually operated rising-stem gate valves.
	• These valves are maintained in a closed position and locked, requiring a key and “Tee-handle” to be operated, except when discharging.
	• All diked areas are visually inspected prior to opening the drain valves.
(3) FACILITY DRAINAGE SYSTEM FROM UNDIKED AREAS	
	• This terminal was designed in accordance with 112.8(b)(3). Storm-water drainage is captured with surface drains throughout the Terminal, from there routed by piping to the large concrete oil/water separator. The site is graded to direct surface flow into the drains. Site discharge is downstream of the separator and in accordance with the Terminal NPDES Permit.
(4) DIVERSION SYSTEM	
	• This Terminal was designed in accordance with 112.8(b)(3).
(5) TREATED DRAINAGE WATERS	
	• Drainage water flows into onsite oil/water separators or Contech Filter, and it discharges to either outfalls or City of Portland POTW system.

40 CFR, 112.8 (c) Bulk Storage Containers

40 CFR, 112.8
(c) BULK STORAGE CONTAINERS
(1) CONTAINER CONSTRUCTION AND MATERIALS
• All bulk storage tanks are constructed of welded or riveted steel to meet API standards (relating to oil storage tank construction).
• Welded steel tanks are considered industry standard for storage of petroleum products.
• These tanks are operated following API 650 or 653 standards for tanks that store petroleum products at 1.0 specific gravity, ambient or heated temperature, and ambient pressure.
• The biodiesel tank (# 2113) is heated to 60-80°F.
• Each aboveground container covered by the SPCC rule is inspected on a regular schedule, and whenever material repairs are made, in accordance with the following industry standards:-American Petroleum Institute (API) Standard 653 for atmospheric storage tanks with a capacity of 50,000 gallons or more.-Steel Tank Institute (STI) Standard SP001 for atmospheric storage tanks with a capacity of less than 50,000 gallons.-API Standard 510 for pressurized storage vessels. An inspection schedule has been established (no later than November 10, 2011) for each above ground storage container identified in the SPCC plan based on the intervals prescribed in the applicable industry standard. For containers not previously inspected per an above industry standard, an inspection must be performed within 5 years of the SPCC rule revision effective date of November 10, 2016 (per EPA document “EPA Guidance for Regional Inspectors, Chapter 7”). The container inspection schedule is maintained by the Regional Tank Integrity Manager.
(2) SECONDARY CONTAINMENT
• All bulk storage tanks are provided with secondary containment in the form of sufficiently impervious dikes of compacted clay floors with concrete walls, with the exception of one compacted earthen wall with erosion prevention material on its surface. Berm 5 has an impervious liner.
• These dikes are constructed to contain the volume of the largest tank + the 25-year 24-hour storm.
(3) RAINWATER DRAINAGE
• If storm water is verified as uncontaminated, open discharge valve. Begin discharge of storm water.
• All drain valves will remain closed except when discharging.
• The Secondary Containment Drainage Log, FIGURE C-14, is used to record all dike draining events.
• Upon completion of the drainage, close and lock drain valve and record the securing of the drain valve on the Company Drainage Log.
• Inspect accumulated storm water. Verify that water is clear and free of oil sheen. If sheen is observed, proceed to treat water using sorbents and/or diverting to oil/water separator. Storm water is not discharged if contaminated.
• Storm water is collected within the secondary containment dikes then directed to the API oil water separators once valve is opened. The Company maintains a permit from the state of Oregon, to discharge uncontaminated storm water.
(4) BURIED METALLIC STORAGE TANKS
• A 15,000-gallon spill containment tank for the truck loading rack and it is not covered by UST regulations. When the tank is full of water, the contents are inspected by Company Operations personnel for an oil sheen prior to the contents being released to the OWS. If product or a sheen is present, it is removed by a vacuum truck. This tank has a protective coating, suitable for underground service, and it is regularly leak tested.
(5) PARTIALLYBURIED METALLIC STORAGE TANKS
• There are no partially buried tanks at this facility.
(6) ABOVEGROUND CONTAINERS
• All tanks are visually inspected monthly to determine their integrity. A monthly terminal inspection is performed to verify the condition of the terminal.
• The Company has developed a tank inspection program for all storage tanks in accordance with the API 653 Standard, which includes visual and other testing techniques.
• The aboveground boiler fuel tank located just north east of tank #2512, and outside of the Tank Area 1 secondary containment area, is out-of-service. The piping connecting the boiler fuel tank to the boiler has been removed and it is permanently disconnected. The tank remains, out-of-service in its own concrete secondary containment.
(7) INTERNAL HEATING COILS
• Tanks 2113 and 3605 are equipped with internal heating coils to heat biodiesel. Leakage control is achieved by regular monitoring (by observation of discharge at the steam outlet valve) as part of the process to ensure their integrity and sound operations.
(8) FAIL SAFE ENGINEERING
• To prevent overfilling of bulk storage tanks, Company personnel will monitor all filling operations using direct “side- reading” level gauges and manual gauging techniques.

40 CFR, 112.8 (c) Bulk Storage Containers, Continued

40 CFR, 112.8	
(c) BULK STORAGE CONTAINERS	
(8) FAIL SAFE ENGINEERING	
	• Tanks are equipped with side reading automatic gauges and high-level alarms.
	• These gauges are utilized to directly verify product level in the tank without the requirement to hand gauge the tank from the top.
	• The side gauges and high-level alarms are independent of each other and regularly inspected to verify their operational integrity.
	• Pipeline surge control systems are in place and are operated and controlled by pipeline system operators. The surge control system for internal tank product movement includes clay valves designed to divert product from the inbound if a pressure surge is present in the system.
	• Signage is placed as markers at fence lines, property lines, right-of-way boundaries, and in open areas where the party exerting control over the surface use of right-of-way will permit such installation. Markers may consist of pipeline warning signs or posts installed to indicate the presence of buried pipeline. Procedures for pipeline markers installation is specified in NuStar Energy Pipeline Operations Maintenance Manual.
	• Relief valves are utilized to relieve pressure due to thermal expansion of liquid in pipes. These valves remain closed when the pipeline system pressures are in normal operating range, and open automatically and permit the commodity to flow from the system when pressures rise above the design level. Commodity released by the relief valves is generally piped into tankage or lower pressure pipelines. Relief valves are kept closed by spring pressure or weight loading until the pressure set point is reached or exceeded.
(9) FACILITY EFFLUENTS	
	• The OWS is monitored each shift (part of AVOs performed), Box#1 of the OWS is skimmed as necessary; outfalls are observed daily; and the OWS is cleaned and maintained annually.
	• Prior to the discharge of storm water from the dike field areas, Company personnel visually inspect the effluent.
	• Storm water is not discharged if there is a visible sheen. The Company will treat the storm water to remove the oil sheen before discharging.
(10) VISIBLE OIL LEAKS	
	• All containment dikes are inspected on a monthly basis and prior to actual discharging to prevent the release of oil into navigable waters.
	• Operators will inspect the product transfer as well as bulk storage container areas daily, and promptly correct any operations or facilities that show leakage.
	• Facility equipment including storage tanks shall be inspected daily to verify the integrity of each item.
(11) MOBILE/PORTABLE STORAGE CONTAINERS	
	• Two totes of red dye are located within the tank truck loading rack containment. Three totes of Lubricity additive are located in the truck loading rack containment area. All have adequate secondary containment volumes. • Varying quantities of drums containing waste generated by operators and contractors are temporarily stored within the hazardous waste storage area on secondary containment pallets pending disposal. The secondary containment pallets provide adequate secondary containment volumes (66 gallons per secondary containment pallet). The drums are transported and disposed in accordance with state and federal regulations within 90-days

40 CFR, 112.8 (d) Facility Transfer Operations, Pumping, and Facility Processes

40 CFR, 112.8	
(d) FACILITY TRANSFER OPERATIONS, PUMPING, AND FACILITY PROCESSES	
(1) BURIED PIPING INSTALLATIONS	
	• In the event that buried pipe is exposed for maintenance, it will be carefully inspected to identify any corrosion.
	• Any corrosion of buried pipe shall require the affected area to be replaced and pressure tested prior to returning the pipe to service.
	• All underground piping installed or replaced on or after August 16, 2002 is required to be equipped with a protective coating and protected with Cathodic Protection. All buried piping installed or replaced on or after August 16, 2002, shall be properly wrapped and coated. It also will be cathodically protected, or the determination made by a qualified corrosion technician that the soil is not conducive to the corrosion of a buried metallic pipeline. It then must meet the requirements of 40 CFR 112.280. All underground piping meets the above requirements.
	• Integrity and leak testing of buried piping shall be performed at the time of installation, modification, construction, relocation, or replacement.
(2) PIPING OUT-OF-SERVICE	
	• Any piping considered to be out-of-service will be disconnected from product transfer equipment and identified as such by the installation of caps and/or blind flanges.
	• Out-of-service piping will also be properly labeled to identify the nature of the pipe condition.
(3) PIPING SUPPORTS	
	• Pipelines are nested on pipe supports to prevent unnecessary movement that might allow the pipe to fall from the support.
	• All piping is configured to allow for expansion, while minimizing abrasion that might cause deterioration of the steel.
	• Pipe supports and associated piping are protected against corrosion by exterior coatings.
	• Pipelines and supports are inspected monthly to determine conditions.
	• All pipe supports have been designed and installed using applicable engineering techniques.
(4) ABOVEGROUND VALVES AND PIPELINES	
	• Operators will inspect the product transfer areas daily and correct any operations that show leakage.
	• All Facility equipment, including pipelines and valves, shall be inspected monthly to verify the integrity of each item.
	• Aboveground valve and pipeline inspections shall involve assessment of the general condition of items, including flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces.
	• In the event underground pipeline inspections identify excessive corrosion and/or actual leaks, the Company will pressure test these pipelines to verify their integrity.
	• If a pipeline fails the integrity testing, the Company shall repair or replace the pipe prior to returning the pipeline to service.
(5) VEHICULAR TRAFFIC	
	• All drivers are instructed to observe caution where overhead piping may interfere with the movement of tank trucks.
	• The Company has developed a process for certifying that new truck drivers are trained on the use of the loading rack and associated equipment, prior to issuing a driver card.
	• Signs have been posted at facilities warning drivers of the presence of aboveground piping.
	• Loading racks and the driveways that lead to and from the loading racks have been designed to allow the unobstructed movement of tank trucks through the facility.

FIGURE C-5 - TANK TABLES

Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,526,673									
703	Overfill/ Rupture/ Leakage	309,498	3,243,790 / 8	IFR	1938	242,718	Northeast / Instantaneous	Diesel/Renew-able Diesel	API-653
1009	Overfill/ Rupture/ Leakage	392,887	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1981	366,366	Northeast / Instantaneous	Gasoline/Diesel	API-653
1010	Overfill/ Rupture/ Leakage	393,264	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	342,636	Northeast / Instantaneous	Out of Service	API-653
1011	Overfill/ Rupture/ Leakage	393,149	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	384,510	Northeast / Instantaneous	Ethanol / Gasoline	API-653
2020	Overfill/ Rupture/ Leakage	821,940	3,970,430/ 8	IFR	1935	750,960	Northeast / Instantaneous	Gasoline/Diesel	API-653
2021	Overfill/ Rupture/ Leakage	832,032	3,970,430/ / 8	IFR	1935	743,148	Northeast / Instantaneous	Gasoline/Diesel	API-653
2022	Overfill/ Rupture/ Leakage	832,032	3,970,430/ / 8	IFR	1935	751,748	Northeast / Instantaneous	Gasoline/Diesel	API-653
2113	Overfill/ Rupture/ Leakage	865,857	3,243,790 / 8	IFR	1938	698,922	Northeast / Instantaneous	Bio Diesel	API-653
2511	Overfill/ Rupture/ Leakage	1,060,587	3,243,790 / 8	Cone	1925	1,001,742	Northeast / Instantaneous	Diesel/Renew-able Diesel	API-653
2512	Overfill/ Rupture/ Leakage	1,049,887	3,243,790 / 8	Cone	1925	1,003,926	Northeast / Instantaneous	Diesel/Renew-able Diesel	API-653
2705	Overfill/ Rupture/ Leakage	1,158,532	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	Cone	1980	981,246	Northeast / Instantaneous	Diesel/ Biodiesel	API-653
2706	Overfill/ Rupture/ Leakage	1,085,895	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	1,071,000	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,405,208									
3201	Overfill/ Rupture/ Leakage	1,264,793	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,243,998	Northeast / Instantaneous	Ethanol	API-653
3203	Overfill/ Rupture/ Leakage	1,265,942	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,250,071	Northeast / Instantaneous	Gasoline/Diesel	API-653
3204	Overfill/ Rupture/ Leakage	1,267,302	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,249,542	Northeast / Instantaneous	Gasoline/Diesel	API-653
3510	Overfill/ Rupture/ Leakage	1,456,109	3,243,790 / 8	IFR	1937	1,172,430	Northeast / Instantaneous	Ethanol / Gasoline	API-653
3605	Overfill/ Rupture/ Leakage	1,442,470	3,243,790 / 8	Cone	1936	1,376,886	Northeast / Instantaneous	Biodiesel	API-653
3614	Overfill/ Rupture/ Leakage	1,398,810	3,970,430/ / 8	IFR	1958	1,295,238	Northeast / Instantaneous	Gasoline/Diesel	API-653
4402	Overfill/ Rupture/ Leakage	1,761,801	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,738,800	Northeast / Instantaneous	Gasoline/Diesel	API-653
4507	Overfill/ Rupture/ Leakage	1,849,692	5,525,130/ 8 (Berms 3&4 interconnected Combined Volumes)	IFR	1980	1,825,740	Northeast / Instantaneous	Ethanol / Gasoline	API-653
5209	Overfill/ Rupture/ Leakage	2,190,678	5,525,130/ 8 (Berms 3&4 interconnected Combined Volumes)	IFR	1971	1,997,100	Northeast / Instantaneous	Gasoline/Diesel	API-653
5618	Overfill/ Rupture/ Leakage	2,220,204	3,970,430/ / 8	IFR	1958	2,142,294	Northeast / Instantaneous	Gasoline/Diesel	API-653
5901	Overfill/ Rupture/ Leakage	2,414,958	3,243,790 / 8	IFR	1929	2,032,182	Northeast / Instantaneous	Gasoline/Diesel	API-653
5902	Overfill/ Rupture/ Leakage	2,386,734	3,243,790 / 8	IFR	1929	2,006,802	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

Container/ Source	Failure/ Cause	Quantity Stored (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,405,208									
5919	Overfill/ Rupture/ Leakage	2,147,688	3,970,430/ / 8	Cone	1935	2,259,642	Northeast / Instantaneous	Diesel	API-653
6408	Overfill/ Rupture/ Leakage	2,649,782	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1981	2,594,466	Northeast / Instantaneous	Gasoline/Diesel	API-653
8006	Overfill/ Rupture/ Leakage	3,379,698	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1953	3,004,722	Northeast / Instantaneous	Gasoline/Diesel	API-653
8007	Overfill/ Rupture/ Leakage	3,338,748	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1953	2,662,044	Northeast / Instantaneous	Gasoline/Diesel	API-653
8308	Overfill/ Rupture/ Leakage	3,352,746	5,525,130/ 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1969	3,061,632	Northeast / Instantaneous	Gasoline/Diesel	API-653
1015	Overfill/ Rupture/ Leakage	56,124	3,243,790 / 8	Cone	1938	51,366	Northeast / Instantaneous	Permanently Closed	None
1016	Overfill/ Rupture/ Leakage	56,112	3,243,790 / 8	Cone	1938	51,366	Northeast / Instantaneous	Permanently Closed	None
181	Overfill/ Rupture/ Leakage	7,685	8,455/ 2	Cone		3,000	Northeast / Instantaneous	Gasoline / Diesel Additive	API-653
23	Overfill/ Rupture/ Leakage	10,048	12,206/ 2	Cone		7,500	Northeast / Instantaneous	Gasoline / Diesel Additive	API-653
212	N/A	Stored Empty		-		0	Northeast / Instantaneous	N/A	SP001
10026	Overfill/ Rupture/ Leakage	4,200,000	5,390,280/ 8	IF	2007	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

Container/ Source	Failure/ Cause	Quantity Stored (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,405,208									
10027	Overfill/ Rupture/ Leakage	4,200,000	5,390,280/ 8	IF	2007	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	API-653
Tank 4 (Dryer Storage	-			-			-	Out of Service	API-653
Tank 01 (Oil Water Separato	-	3,760	67,000	-			-	-	SP001
Tank 17	Overfill/ Rupture/ Leakage -		3,243,790 / 8	-			-		API-653
Tank 1104	-		3,243,790 / 8	-			-	Permanently Closed	API-653
Saturatio n Tank		8,000	8,800 / 6	Double Walled	2021		South-Southwest / instantaneou s	Saturation Tank for Vapor Combustion Unit-	SP001
OIL FILLED ELECTRICAL EQUIPMENT- Total: 180									
Transfor mers	Leak/ Rupture	180	996	-		180	Northeast / Instantaneous	Lube Oil	AVO
MISCELLANEOUS - Total: 8,404									
2 Tote - Red Dye	Overfill/ Rupture/ Leakage	300 each	16,159	Tote			Northeast / Instantaneous	Red Dye	AVO
3 Tote - Lubrizol Additive	Overfill/ Rupture/ Leakage	300 each	16,159	Tote		150	Northeast / Instantaneous	Lubricity Additive	AVO
Rail Area	Hose Rupture	44	147	Railcar Hose		N/A	Contained	Diesel/ Biodiesel/ Ethanol	AVO
Truck Rack	Hose rupture, overfill	6,000	16,159	-		N/A	Northeast / Instantaneous	Petroleum Products	AVO
Loading Arm	Hose rupture, overfill	750	16,159	-		N/A	Northeast / Instantaneous	Petroleum Products	AVO
2 Drums – Investigat ion Derived Waste	Overfill/ Rupture/ Leakage	55 each	66 per secondary containment pallet	Drum			Contained	Varies (can include IDW from environmental work)	AVO
Facility Total: 53,526,673									

Containment Type: 1=Earthen Berm and Floor, 2=Concrete Berm and Floor, 3=Earthen Berm and Concrete Floor, 4=Metal Berm and Floor, 5=Portable Containment or Inside Building, 6=Double Walled, 7=Coated Asphalt Materials, 8=Concrete Berm and Earthen, 9=Asphalt, Soil, and Concrete walls and Earthen Floor, * Not in Containment Area, ** Curbing and containment system

Notes:

1. Tank 1010 is currently out of service; the tank will continue to be maintained and will be brought into service when the storage capacity is required.

FIGURE C-6 - ADDENDUM

Certification of this Spill Prevention, Control, and Countermeasure Plan is contingent upon correction of all discrepancies listed in this Addendum. The discrepancies for this facility are:

REGULATION	DISCREPANCY	PLAN OF ACTION	ESTIMATED TIME TO COMPLETE	DATE COMPLETED
40 CFR 112.8(c)(2)	Berm 3 may not be sufficiently impervious. Based on soil sampling Berm # 3 has a hydraulic conductivity (Ksat value) of 3 inches/hour. Factoring in that gasoline is less viscous than water: [1/0.4 = 7.5 inches/hour] 7.5in./hr. would be the approximate flow rate for gasoline. If a tank ruptured, leak was discovered and all gasoline could be completely removed within 24 hours, the gasoline is estimated to travel 180 inches (15 feet) in this time. This could	Installed fabric covering the dike wall	Completed 12/2013	Completed 12/2013
40 CFR 112.8(c)(2)	The Tank Yard 4 secondary containment capacity is not sufficient to contain 110% of the largest tank (Tank 6408) volume of 2,649,782 gallons. The pipe connecting Tank Yard 3 and Tank Yard 4 should remain in place.	The valve on the connection pipe between Tank Yard 3 and Tank Yard 4 is locked open and signage indicates that the normal valve position is open.	Completed 8/16/2019	Completed 8/16/2019

FIGURE C-7 - DRAINAGE DIAGRAM

Click to view/print Drainage Diagram

FIGURE C-8 - EVACUATION DIAGRAM

Click to view/print Evacuation Diagram

FIGURE C-9 - PIPING DIAGRAM

Click to view/print Piping Diagram

FIGURE C-10 - CONTAINMENT CALCULATION

Click to view/print Yard 1

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 2

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 3 and 4

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 5

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Additive Tank 23

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Additive Tank 181

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Other Containment Areas

FIGURE C-11 - DISCHARGE PREVENTION MEETING LOG

Spill Prevention Briefing

- Company personnel are kept knowledgeable of equipment, safety factors, and operating conditions.
- Annual training sessions are conducted by the Training Manager to assure oil handling personnel understand the SPCC Plan for the facility. These documented sessions keep personnel informed of their obligation to prevent pollution incidents and to improve spill control and response techniques.

Note: This form is a sample.

DATE	ATTENDEES

Subject/Issue Identified	Required Action	Implementation Date

FIGURE C-12 - INSPECTION PROCEDURES

INSPECTION PROCEDURES	DATE
A. ROUTINEVISUALINSPECTION	
○ Check tank connections for leaks and localized dead vegetation	
○ Inspect drains for accumulation of oil	
○ Check tanks for gaps between tank and foundation and damage caused by vegetation roots	
○ Check valves and packing for leaks	
○ Check drains and sumps for accumulation of oil and proper operation of level controls and pumps	
○ Check tank seams for leaks, including drips, puddles, discolored area or localized dead vegetation	
○ Check all tank and piping surfaces for signs of external corrosion	
○ Check base of tanks for evidence of settling, leaks, including drips, puddles or discolored areas	
○ Check piping for bowing between supports, leaks, including drips, puddles, discolored area, or localized dead vegetation	
○ Check vent system outlets to ensure that they are not obstructed	
○ Check secondary containment for discoloration and cracks or holes. Special attention should be given to seams and locations where piping goes through the deck, curbing or dikes. Ensure dike valves are closed and sealed	
○ Check secondary containment for permeability, debris, erosion, location/status of pipes, inlets, drainage beneath tanks, and level of precipitation in dike vs. available capacity	
○ Check secondary containment for presence of water in diked area. Follow appropriate Company procedures after visual inspection of the water to determine if sheen is present on the water	
○ Check all gates to ensure that only the entrances/exits currently in use by authorized personnel are open and unlocked	
B. ANNUAL INSPECTIONS	
○ Check facility lighting to ensure all are functioning	

FIGURE C-12 - INSPECTION PROCEDURES, CONTINUED

INSPECTION PROCEDURES	DATE
○ Check facility fencing for damages that would allow unauthorized entry	
○ Inspect sumps for the accumulation of oil	
○ Inspect diked/curbed areas for the accumulation of oil	
○ Inspect drip pans on lift stations for the accumulation of oil	
○ Inspect all tanks for proper operation including gauges, sight glasses, level controls and pressure controls	
○ Inspect valves and valve glands for proper operation and ensure complete valve closure (leak proof)	
○ Inspect sump for proper operation. Manually gauge sump and pump out if level is high	
○ Examine the outside of the tank for signs of corrosion, damaged paint surfaces and signs of leaking ○	
Inspect pipelines for signs of leaking or damage	
○ Inspect flanges for signs of leaking or damage	
○ Inspect joints for signs of leaking or damage	
○ Pipeline and tank corrosion inspection frequency, guidance and repair are conducted in accordance to NuStar corrosion Control Manual. Annual Cathodic Protection Surveys for pipeline is conducted (not to exceed 15 months) to evaluate the effectiveness of the corrosion control program.	
○ Pipeline corrosion inspection is conducted in accordance to NuStar Corrosion Manual as they are in accordance to specification outlined in 49CFR Part 195, Subpart H.	
C. RECORD KEEPING	
○ All inspections, except routine, are to be documented on the forms provided in the Appendix and retained at the Facility. Records shall be maintained for a period of five (5) years. The following is a list of documentation forms available in the Appendix:	
○ Annual Inspection Record (FIGURE C-13)	

Note: More stringent inspections, as required by Company procedures and documented on other forms, may be used to supplement or replace SPCC inspection records. These documents must be retained for five (5) years.

FIGURE C-13 - ANNUAL INSPECTION RECORD

(Other versions of this form may be used)

YEAR	MONTH	DATE	INITIALS	COMMENTS

FIGURE C-14 - SECONDARY CONTAINMENT DRAINAGE LOG

(Other versions of this form may be used)

DATE	TIME STARTED	TIME ENDED	OPERATOR NAME	SIGNATURE	COMMENTS

SECONDARY CONTAINMENT DRAINAGE PROCEDURES

1. Inspect water inside containment for sheen. Indicate sheen/no sheen in comments.
2. Open valve or start pump.
3. Monitor drainage.
4. Close valve and secure with seal or lock/secure pump.
5. Fill out drainage log and sign.

FIGURE C-15 - REPORTABLE SPILL HISTORY

Date of Discharge(s):	June 15, 2010
List of Discharge Causes:	San Juan Industries, an approved contractor for NuStar Energy, was removing a hydraulic ram from a marine loading arm for repair. The load arm was in the number 2 position on the Portland P2 dock. The ram was approximately25 feet above the deck and 9 feet from the docks edge. The loading arm was installed within a concrete containment basin. During the disconnection of the ram to allow for removal and repair, approximately½ gallon of hydraulic fluid leaked from an open fitting and sprayed across the wharf to the Willamette River. The terminal began the removal process by locking out the load arm. The contractor then continued the project, disconnecting two cables from the hydraulic ram and then disconnecting two 3/8" hydraulic fluid lines. The ram was installed on the load arm in the vertical position. One of the cables was connected to a piston inside of the ram. Disconnecting the cable allowed the piston free travel once the hydraulic fluid was drained from the cylinder. As the hydraulic lines were disconnected, the lines were capped, and the fluid was drained to a drain pan. The connections points necessarily remained open to allow the hydraulic fluid to drain out of the cylinder. Approximately 5 to 10 minutes after the draining process was complete, the piston inside of the ram dropped approximately1 to 2 feet. The force and weight of the piston expelled residual fluid and clingage inside the cylinder out of a 3/8" drain hole and sprayed the fluid 9' to the Willamette River.
Material(s) Discharged:	hydraulic fluid
Amount of Discharges in Gallons:	1/2 (gals)
Amount That Reached Navigable Waters (if applicable):	1/2 (gals)
Effectiveness and Capacity of Secondary Containment:	N/A
Cleanup Actions Taken:	N/A
Steps Taken to Reduce Possibility of Reoccurrence:	Loading arm was removed and will not be replaced.
Total Oil Storage Capacity of Tank(s) or Impoundment(s) From Which Material Discharged:	N/A ()
Enforcement Actions:	N/A
Effectiveness of Monitoring Equipment:	N/A
Spill Detection:	N/A

*Reportable spill, as defined in 40 CFR Part 110, is a discharge of oil that violates applicable water quality standards or a discharge into or upon the navigable waters of the United States or adjoining shorelines in harmful quantities.

FIGURE C-16 - CONTAINMENT AND DRAINAGE PLANNING

FACTORS
Available Volume of Containment
Refer to FIGURE C-5.
Route(s) of Drainage
Refer to FIGURE C-7.
Construction Materials Used in Drainage Troughs
Believed to be steel and cast pipe of unknown size.
Type and Number of Valves Separators
(9) 4-inch gate valves.
Sump Pump Capacities
Yard 1 (Pump capacity is 150gpm), Yard 3 (Pump capacity is 150 gpm) and Yard 5 (Pump capacity is 156 gpm).
Containment Capacity of Weirs and Booms
None
Other Clean Up Materials
Refer to SECTION 7.1.1 and APPENDIX B.

APPENDIX B
Facility Response Plan

NuStar
Portland Terminal
FRP - EPA USCG PHMSA OR
Developed by:
JENSEN HUGHES
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FRP - EPA USCG PHMSA OR

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RECORD OF CHANGES

Changes to this Plan will be documented on this page. Plan review and modifications will be initiated and coordinated with Terminal Management.

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1/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Delete Kathy Curtis	
1/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Insert Leah VanEaton	
1/31/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | 1.3 Agency Submittal / Approval Letters	
2/27/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	
3/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
3/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
3/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
3/7/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	
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3/8/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | 1.1 Purpose / Scope of Plan	
3/15/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	
3/15/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Leah VanEaton	
3/15/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | 1.4 Certification of Adequate Resources	
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3/20/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Hufman	

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3/27/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables	
3/29/2019	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.2 Evacuation | Evacuation Factors	
3/29/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-2 - Information Summary	
3/29/2019	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.2 Evacuation	
3/29/2019	FRP - EPAUSCG PHMSAOR | 7 - Sustained Response Actions | 7.1 Response Resources | 7.1.1 Facility Response Equipment	
3/29/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers	
4/8/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
4/10/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables	
4/10/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan	
4/22/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Oil Spill Removal Organizations (OSROs) | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	FRP - EPAUSCG PHMSAOR | 7 - Sustained Response Actions | 7.1 Response Resources | Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | B.1.1 OSRO Classification | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	

RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
4/22/2019	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | Figure B.1-1 - Evidence of Contracts and Equipment Lists | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
5/3/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
5/3/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
5/8/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables	
5/9/2019	FRP - EPAUSCG PHMSAOR | 1 - Introduction | 1.3 Agency Submittal / Approval Letters	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (a) General Requirements	
5/17/2019	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Insert Tricia Dietrich Petty	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (b) Prediction Of The Direction, Rate Of Flow, And Total Quantity Of Oil Which Could Be Discharged From The Facility As A Result Of Each Type Of Major Equipment Failure	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (c) Provide Appropriate Containment	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (e) Inspections, Tests, And Records	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (f) Personnel Training And Discharge Prevention Procedures	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (g) Security	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (h) Facility Tank Car And Tank Truck Loading/Unloading Rack	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (j) State Discharge Prevention Requirements	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (k) Qualified Oil-Filled Operational Equipment	

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5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.8 (a) General Requirements	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.8 (b) Facility Drainage	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.8 (c) Bulk Storage Containers	
5/17/2019	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-3 - Record of Reviews	
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12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Chris Chan	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Stephan Rosen	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Terry Schulte	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Hufman	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Rena Swafford	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Leah VanEaton	
12/14/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Don (JR) Marti, Jr.	
12/15/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty	
12/15/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Greg Matula	
12/15/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Joe Aldridge	
12/15/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers (renamed "Facility Response Team" to "Onsite Response Personnel" and "Emergency Response Personnel and Business Unit Notifications" to "Offsite Response Personnel")	
12/15/2020	FRP - EPAUSCG PHMSAOR | 4 - Response Team Organization | 4.5 Qualified Individual (QI) | Figure 4.5-1 - Emergency Response Activation Procedure (updated the figure name)	
12/15/2020	FRP - EPAUSCG PHMSAOR | 4 - Response Team Organization | 4.5 Qualified Individual (QI) | Figure 4.5-2 - Emergency Response Organization Chart (updated the figure name)	
12/15/2020	FRP - EPAUSCG PHMSAOR | 4 - Response Team Organization | 4.6 Incident Command System (ICS) Job Descriptions and Guidelines (updated the section name)	
12/16/2020	FRP - EPAUSCG PHMSAOR | 5 - Incident Planning | 5.3 ICS Forms | 5.3.1 Incident Briefing ICS 201-OS	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Aaron Flett	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Don (JR) Marti, Jr.	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Joe Hufman	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Zack Chaffin, NuStar Energy LP	
12/16/2020	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Leah VanEaton	
12/16/2020	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update U.S. Coast Guard - Sector Portland Oregon	
12/17/2020	FRP - EPAUSCG PHMSAOR | A- Training / Exercises | A.1 Exercise Requirements and Schedules | Figure A.1-6 - Incident Management Team Tabletop	
12/17/2020	FRP - EPAUSCG PHMSAOR | A- Training / Exercises | A.1 Exercise Requirements and Schedules | Figure A.1-3 - Incident/Drill/Exercise Documentation Form	
12/17/2020	FRP - EPAUSCG PHMSAOR | A- Training / Exercises | A.2 Training Program | Figure A.2-2 - Training Program Matrix	
1/5/2021	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-3 - Record of Reviews	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
1/13/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Occupational Safety and Health Administration (OSHA) California	
1/13/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Occupational Safety and Health Administration (OSHA) Washington DC and California (CalOsha)	
1/13/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Occupational Safety and Health Administration (OSHA) Washington DC	
1/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Shawnna Poor	
2/2/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5	
2/2/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update PHMSA.OPA90@dot.gov , Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5	
2/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Washington Department of Ecology (DOE), Southwest Region	
2/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	
2/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
2/26/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	
2/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	
2/26/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Occupational Safety and Health Administration (OSHA) Washington DC	
4/20/2021	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables Added Transmix for Tank 1009 as one of the product in the tank table.	
6/22/2021	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.1 Spill Response | Figure 2.1-2 - Spill Response Action Checklist | Response Action	
6/23/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
6/23/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
6/23/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
6/23/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jerome Jackson	
7/2/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Washington Department of Fish & Wildlife	
7/2/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Washington Department of Fish & Wildlife	
7/2/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
7/2/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
7/2/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	
7/13/2021	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables	
7/26/2021	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.1 Spill Response | Figure 2.1-2 - Spill Response Action Checklist | Response Action	
8/6/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Chris Cho	
8/6/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Remove Joe Aldridge, Director Remediation	
8/6/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Insert Jennifer Polk, HSE Manager - West Region	
9/2/2021	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.1 Spill Response | Figure 2.1-2 - Spill Response Action Checklist | Response Action	
9/9/2021	FRP - EPAUSCG PHMSAOR | 2 - Initial Response Actions | 2.1 Spill Response | Figure 2.1-2 - Spill Response Action Checklist | Response Action	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
9/9/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Washington Department of Fish & Wildlife Oil Spill Team	
9/9/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Oil Spill Removal Organizations (OSROs) | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	FRP - EPAUSCG PHMSAOR | 7 - Sustained Response Actions | 7.1 Response Resources | Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | B.1.1 OSRO Classification | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | Figure B.1-1 - Evidence of Contracts and Equipment Lists | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/12/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
10/13/2021	FRP - EPAUSCG PHMSAOR | 1 - Introduction | Figure 1-1 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-6 - External Notifications and Telephone Numbers | Oil Spill Removal Organizations (OSROs) | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	FRP - EPAUSCG PHMSAOR | 7 - Sustained Response Actions | 7.1 Response Resources | Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
10/13/2021	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | B.1.1 OSRO Classification | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	FRP - EPAUSCG PHMSAOR | B - Contractor Response Equipment | B.1 Cooperatives and Contractors | Figure B.1-1 - Evidence of Contracts and Equipment Lists | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/19/2021	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Remove Todd Habets, Director of Health, Safety and Environmental	
12/31/2021	Annual Review and Update - Updated Distribution list, information summary and Section 3 internal and external data updates.	
3/9/2022	Performed annual review and made changes to Distribution List, Section 1 - information summary, Section 2 - evacuation, Section 3 (updated NuStar response teams), Section 7, Appendix A- internal teams and PREP, Appendix C - SPCC updates, Appendix D - Figure D.8-1, Appendix E - Response Plan Cover Sheet	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Kirubhakaran Vyravan	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Dale Combs	
3/22/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Dale Combs	
4/5/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Costello	
4/6/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel	
4/7/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Insert Kyle Bell, Operations Supervisor	
4/7/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Ryan Groesbeck	

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4/7/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Ryan Groesbeck	
4/7/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Insert Jim Roberts	
4/7/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Costello	
4/7/2022	FRP - EPAUSCG PHMSAOR | 7 - Sustained Response Actions | 7.1 Response Resources | 7.1.1 Facility Response Equipment	
4/26/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
4/26/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty, NuStar Logistics, L.P.	
4/26/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Larry Thompson	
4/26/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Chris Cho	
4/26/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
5/5/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Kyle Bell	
5/5/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Kyle Bell	
5/6/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
6/24/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Delete Brandon Ritchey, NuStar Logistics, LP	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Buddy Stubblefield	

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DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Ana Bertolucci	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Rena Swafford	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Polk	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Kirubhakaran Vyravan	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Stephan Rosen	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Aaron Flett	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Shawnna Poor, NuStar Logistics, L.P	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Larry Thompson	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty, NuStar Logistics, L.P.	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
6/25/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Mike Dillinger	
7/28/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (b) Prediction Of The Direction, Rate Of Flow, And Total Quantity Of Oil Which Could Be Discharged From The Facility As A Result Of Each Type Of Major Equipment Failure	
7/28/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-4 - SPCC Plan | 40 CFR, 112.7 (c) Provide Appropriate Containment	

RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-10 - Containment Calculation	
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-7 - Drainage Diagram	
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-8 - Evacuation Diagram	
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-3 - Record of Reviews	
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-5 - Tank Tables	
8/23/2022	FRP - EPAUSCG PHMSAOR | C - SPCC Plans | Figure C-1 - Professional Engineer Certification	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Buddy Stubblefield	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Rena Swafford	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Ana Bertolucci	
9/16/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Stephan Rosen	
12/29/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
12/29/2022	FRP - EPAUSCG PHMSAOR | 3 - Notifications / Telephone Numbers | 3.1 Emergency Information and Notification Procedures | Figure 3.1-5 - Internal Notifications and Telephone Numbers | Offsite Response Personnel | Update Walter Thompson	

RECORD OF AMENDMENTS

SECTION AMENDED	DATE	DEPT. NOTIFIED (Y/N)	CHANGED BY (INITIALS)	DESCRIPTION OF AMENDMENT	PURPOSE OF AMENDMENT

SECTION 1
INTRODUCTION

Last Revised: March 9, 2022

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Figure 1-1 - Distribution List

Figure 1-2 - Information Summary

Figure 1-3 - Facility Area Map

Figure 1-4 - Facility Photograph

Figure 1-5 - Facility Site Plan

1.1 Purpose / Scope of Plan

1.2 Plan Review and Update Procedure

1.3 Agency Submittal / Approval Letters

1.4 Certification of Adequate Resources

1.5 Interface with Other Plans

Figure 1-6 - Interface with Other Plans

FIGURE 1-1 - DISTRIBUTION LIST

PLAN HOLDER	ADDRESS	NUMBER OF COPIES			
		PAPER	DISTRIBUTION DATE	ELECTRONIC	DISTRIBUTION DATE
Portland Terminal, Shore Terminals, LLC, Attn: Terminal Manager	**Office Address:** 9420 N.W. St. Helens Road Portland, OR 97231	3		0	
Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5 PHMSA.OPA90@dot.gov (Email)	**Office Address:** 1200 New Jersey Avenue SE - Room E22-210 Washington, DC 20590-0001	0		1	5/27/2014
EPA Region X 206-553-1263 206-553-4973 (On Duty Officer) 800-424-4372 (Spill)	**Office Address:** 1200 Sixth Avenue Seattle, WA 98101	0		1	
Oregon State Department of Environmental Quality	**Office Address:** 700 NE Multnomah Ave., Suite 600 Portland, OR 97232-4100	1		1	
U.S. Coast Guard - Sector Portland Oregon D13-SMB-msuportlandfac@uscg.mil (Email)	**Office Address:** 6767 N. Basin Avenue Portland, OR 97217	1		1	
Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc Response Time: 1 (hours) 503-220-2040 503-295-3660 (Fax) info@pdxmex.com (Email)	**Office Address:** 200 S. W. Market #190 Portland , OR 97201	0		1	

FIGURE 1-2 - INFORMATION SUMMARY

Owner:	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257 (210) 918-2000
Operator:	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257 (210) 918-2000
Facility Name:	Portland Terminal
Facility Address:	9420 N.W. St. Helens Road Portland, OR 97231
Facility Latitude/Longitude:	45 ° 35 ' 19.7 " N / 122 ° 46 ' 23.2 " W
Facility Telephone/Fax:	(503) 286-6732 - Jeff Hibner / (503) 285-1909
EPA FRP #:	FRP-81
PHMSA FRP #:	1383 and 1562 (Portland Terminal)
USCG FRP #:	P-030
Description of Facility:	This site is a petroleum bulk tank farm and marine terminal consisting of aboveground storage tanks ranging in size from 120 to 110,000 barrels. The facility is used for bulk storage and distribution of petroleum hydrocarbons, biodiesel fuels, and ethanol. The facility receives and ships product by pipeline, tank truck, and waterborne vessels. Products transferred through this facility are non-persistent oils consisting of gasoline, fuel additives, distillates, ethanol, biodiesel and renewable diesel.
Size, Type, and Number of Vessels the Facility can Transfer Oil to or from Simultaneously:	The Facility is capable of transferring oil simultaneously from (1) vessel at the North Dock and (1) vessel from the South Dock. Vessel Type: barge and ship. Vessel Capacity: North Vessels - 60,000 DWT. and South Vessels - 50,000 DWT. Vessel Length: North Vessels - 660 feet (maximum) and South Vessels - 500 feet (maximum). Transfer Rate: North Dock - Unloading rate - 10,000 Bbls/Hr. Loading rate - 3,500 Bbls/Hr. South Dock - Unloading rate - 10,000 Bbl/Hr Loading rate - 3,000 Bbl/Hr (JP-8). Construction: North Dock - wood and steel piling with a concrete deck. South Dock - wood piling with concrete deck. Containment System: North Dock - 10,000-gallon oil/water separator. South Dock - 5,000-gallon containment tank. Unmanned Vessels: Under no circumstances is a vessel undergoing transfer allowed to be left unattended. Continuous surveillance of the vessel is demanded of the carrier.
River Mile:	5.3
Volume of Oil Stored (gal):	4,200,000
Maximum Volume of oil Capable of being Stored (gal):	53,326,223

FIGURE 1-2 - INFORMATION SUMMARY, CONTINUED

Qualified Individuals:
(Refer to APPENDIX A, FIGURE A.2-3 for QI Training Records)

Regional Response Team (RRT)		
Name and Contact Information	**Work**	**Home**
Aaron Flett Area Manager - PNW, Alternate Qualified Individual Response Time: 1 (hours) 503-286-6732 (Office) 360-567-8871* (Mobile)	**Office Address:** 2565 NW Harborside Dr. Vancouver, WA 98660	
Jeff Hibner Terminal Manager - Vancouver, Alternate Qualified Individual Response Time: 1 (hours) QI/IC Training 503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)	**Office Address:** 9420 NW St. Helens Road Portland, OR 97231	
Incident Management Team		
Name and Contact Information	**Work**	**Home**
Ryan Groesbeck Terminal Manager - Portland, Qualified Individual Responsibility During Response Action: Incident Commander Response Time: 1 (hours) 360-949-0913* (Mobile)		

FIGURE 1-2 - INFORMATION SUMMARY, CONTINUED

Qualified Individuals: (Refer to APPENDIX A, FIGURE A.2-3 for QI Training Records)	Incident Management Team		
	Name and Contact Information	**Work**	**Home**
	Jeff Hibner Terminal Manager - Vancouver, Alternate Qualified Individual Response Time: 1 (hours) QI/IC Training 503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)	**Office Address:** 9420 NW St. Helens Road Portland, OR 97231	
	Aaron Flett Area Manager - PNW, Alternate Qualified Individual Response Time: 1 (hours) 503-286-6732 (Office) 360-567-8871* (Mobile)	**Office Address:** 2565 NW Harborside Dr. Vancouver, WA98660	

FIGURE 1-2 - INFORMATION SUMMARY, CONTINUED

<table>
<tr><td>Line Sections / Products Handled: (Refer to Product Characteristic and Hazards, FIGURE D.8-1)</td><td>
<table>
<tr><th>SECTION</th><th>PRODUCTS</th></tr>
<tr><td>St-3 to Kinder Morgan Pump Station - 33 foot with 8-inch diameter</td><td>Gasoline and mid-barrel products</td></tr>
<tr><td>Olympic Pump Station to ST-2 (Line 1) - 1,129 feet with 14-inch diameter</td><td></td></tr>
<tr><td>Olympic Pump Station to ST-2 (Line 2) - 1,129 feet with 14-inch diameter</td><td></td></tr>
<tr><td>Olympic Pump Station to ST-3 (Line 1) - 780 feet with 14-inch diameter</td><td></td></tr>
<tr><td>Olympic Pump Station to ST-3 (Line 2) - 780 feet with 14-inch diameter</td><td></td></tr>
</table>
</td></tr>
<tr><td>Facility Data: (For date and type of substantial expansion, see Description of Facility and Tank Table in APPENDIX C)</td><td>
<table>
<tr><th>Location (Address and County)</th><th>Hours of Operations/ Manning</th><th>Date of Startup</th><th>Wellhead Protection Area</th></tr>
<tr><td>9420 N.W. St. Helens Road Portland, Multnomah County, OR 97231</td><td>Offload or fill two at a time, 24/7</td><td>1979</td><td>No</td></tr>
<tr><td colspan="4">Throughput</td></tr>
<tr><td colspan="4">Daily throughput is typically 15,000 barrels</td></tr>
<tr><td colspan="4">Current Operations</td></tr>
<tr><td colspan="4">The Facility handles and stores a variety of petroleum products. Product is received into the Terminal primarily via barge and tanker across the Terminal Docks and via the Olympic Products Pipeline. Some products are received via tank truck and rail car. Product is delivered from the Terminal primarily via tank truck and via the Kinder Morgan Pipe Line and barge.</td></tr>
</table>
</td></tr>
<tr><td>Response Zone Consists of the Following Counties:</td><td>Multnomah</td></tr>
<tr><td>Alignment Maps (Piping, Plan Profiles):</td><td>Maintained at:</td></tr>
<tr><td>PHMSA Worst Case Discharge:</td><td>Tank 10026 100000 x 0.50 = 50,000 bbls</td></tr>
<tr><td>Statement of Significant and Substantial Harm:</td><td>The response zones in this system all contain pipelines greater than 6 5/8 inches and are longer than ten miles. At least one section of pipeline in each response zone crosses a major waterway or comes within five miles of a public drinking water intake. Therefore, in accordance with 49 CFR 194.103(c), each entire response zone described in this Plan will be treated as if expected to cause significant and substantial harm.</td></tr>
<tr><td>Spill Detection and Mitigation Procedures:</td><td>Refer to SECTION 2.1.1, APPENDIX D.2.1, and APPENDIX D.3.</td></tr>
<tr><td>Date Prepared:</td><td></td></tr>
</table>

The information contained in this Plan is intended to be used as guidelines for the spill responder. Actual circumstances will vary and will dictate the procedures to be followed, some of which may not be included in this manual.

Approval must be received from the Oregon Department of Environmental Quality before conducting any major aspect of the Plan, unless:

- Such actions are necessary to protect human health and safety;
- Such actions must be performed immediately in response to unforeseen conditions to avoid additional environmental damage; or
- The Plan holder has been directed by the Oregon Department of Environmental Quality or the United States Coast Guard.

Note: For further information on the Qualified Individuals' training and qualifications, refer to **SECTION 4.5** and **APPENDIX A.2** in this Plan.

FIGURE 1-3 - FACILITY AREA MAP

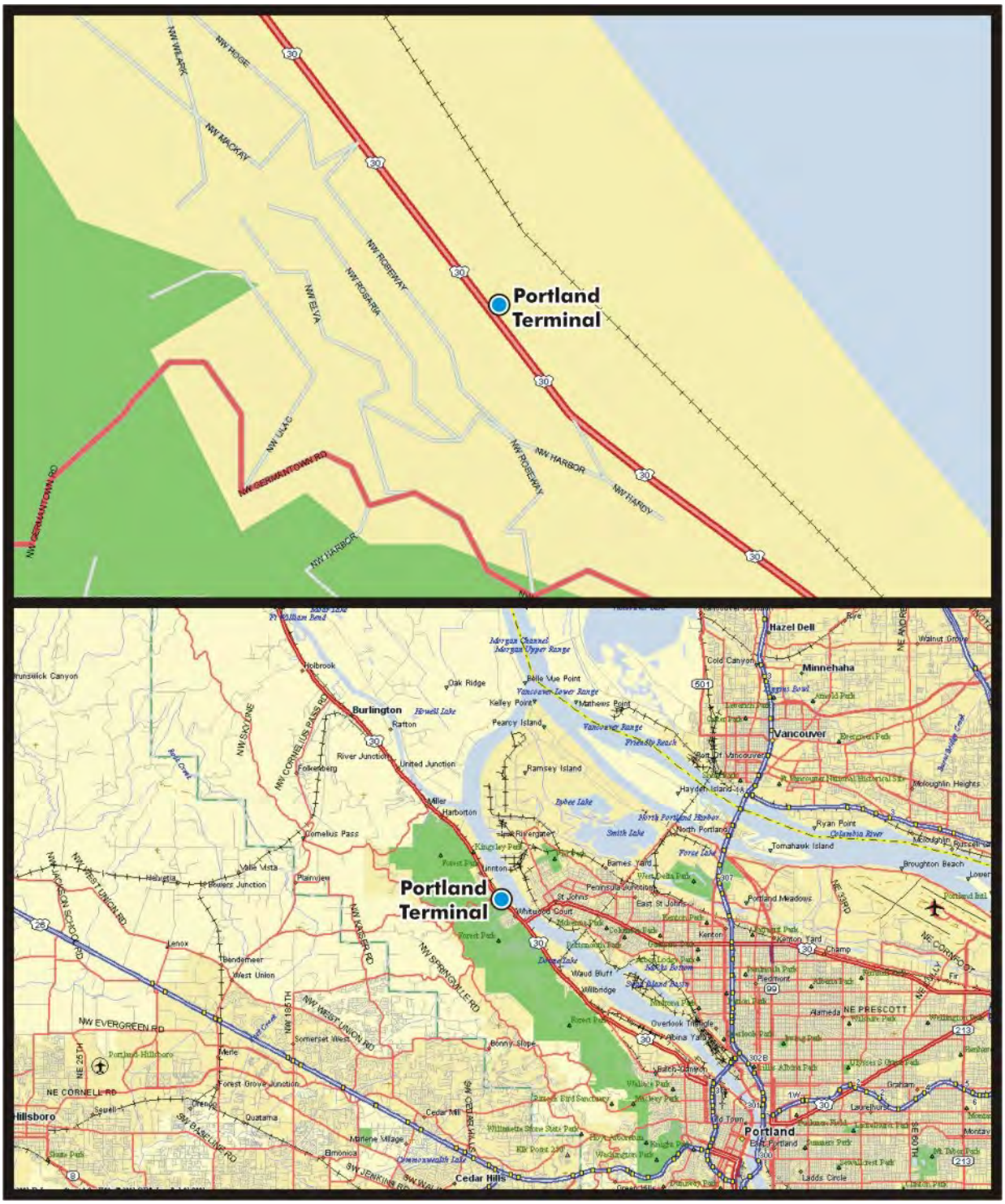
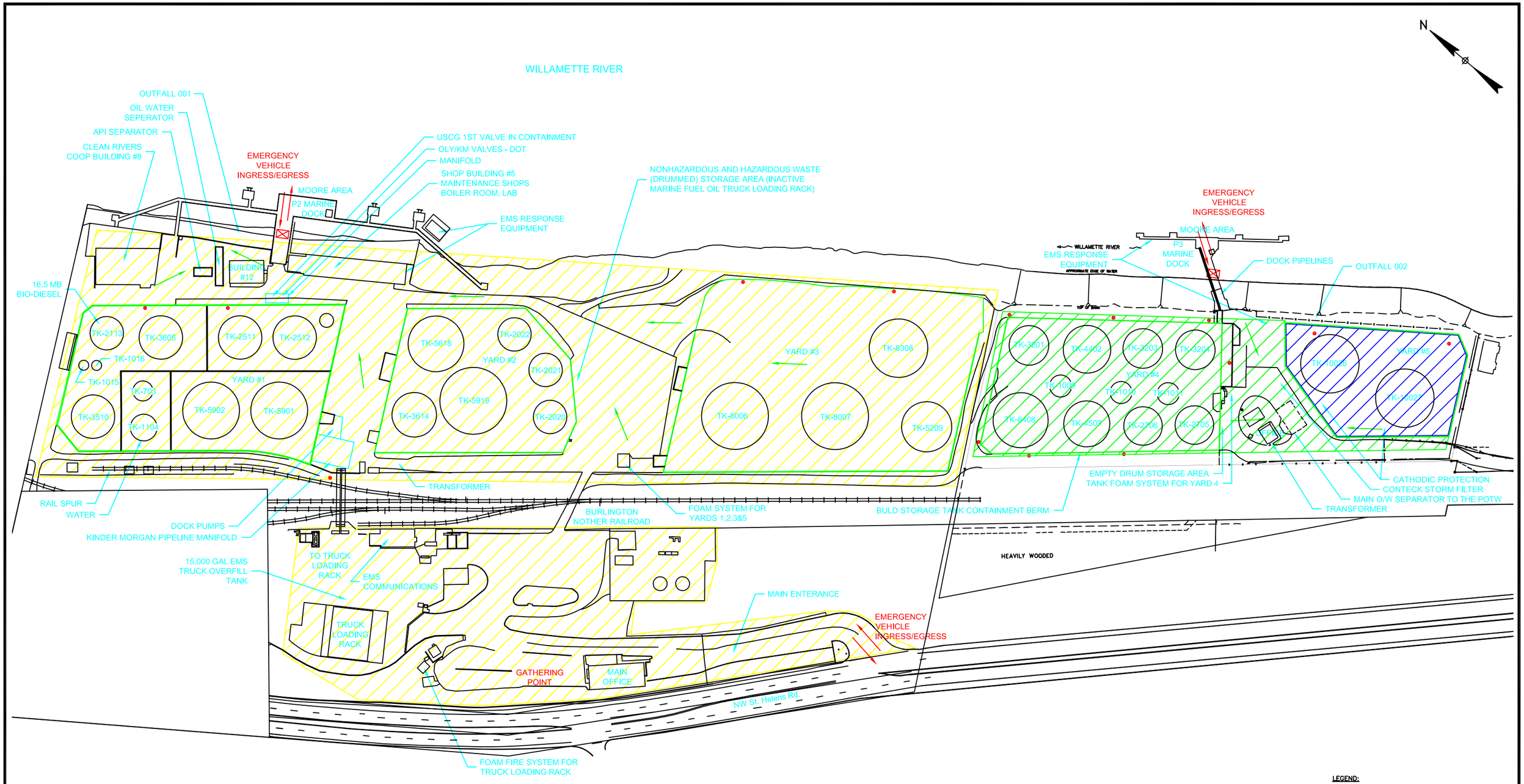


FIGURE 1-4 - FACILITY PHOTOGRAPH

FIGURE 1-5 - FACILITY SITE PLAN

Click to view/print Plot Plan 2016 07 11



LEGEND:

- CONTAINMENT BERM/WALL
- FIRE HYDRANT OR WATER SYSTEM
- EMERGENCY SHUT-OFF VALVE
- DIRECTION OF DISCHARGE
- YARD 5 TO CONTECH
- P2 DRAINAGE AREA
- P3 DRAINAGE AREA

NOTES:
1) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.

REFERENCE DRAWINGS:

NO.	REVISION	BY	DATE	APR	
0	ISSUED	BJZ	06/07/16	CC	CC

NuStar Energy L.P.
19003 IH-10 West
San Antonio, Texas 78257
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION:	Portland, OR		
DRAWN BY: B. ZEPPIERI		DATE:	06/07/16
CHECKED: C. CHAN		DATE:	06/07/16
APPROVED: C. CHAN		DATE:	06/07/16
SCALE:	NONE		

PORTLAND TERMINAL SITE DRAINAGE PLAN

ORIGINAL PROJECT NO.

DRAWING NO. PORT-09-004 REV. 0

1.1 PURPOSE / SCOPE OF PLAN

The purpose of this Emergency Response Plan (Plan) is to provide guidelines to quickly, safely, and effectively respond to a spill. The facility is owned and operated by Shore Terminals LLC, herein referred to as "Company."

This Plan is intended to satisfy the requirements of the Oil Pollution Act of 1990 (OPA 90), and has been prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and applicable Area Contingency Plans (ACP), EPA Region X Regional Contingency Plan and the 2019 Northwest Area Contingency Plan. Specifically, this Plan is intended to satisfy:

- U.S. Environmental Protection Agency (EPA) requirements for an OPA 90 plan (40 CFR 112.20)
- U.S. Environmental Protection Agency (EPA) requirements for a Spill Prevention Control and Countermeasures (SPCC) Plan (40 CFR 112.7)
- U.S. Coast Guard (USCG) requirements for an OPA 90 plan (33 CFR 154.1035)
- Occupational Safety and Health Administration (OSHA) requirements for emergency response plans (EAP and ERP) (29 CFR 1910)
- Oregon Administrative Rule (OAR) 340-141
- State of Oregon Department of Environmental Quality Division 141 Oil Spill Contingency Planning (340-141-0140 and 340-141-0160)

1.2 PLAN REVIEW AND UPDATE PROCEDURE

In accordance with 40 CFR 112.20 and 49 CFR Part 194.121, this Plan will be reviewed annually and modified to address new or different operating conditions or information included in the Plan. Upon review of the response plan for each five-year period, the plan will be submitted to PHMSA prior to 5 years from the last approval date. Company internal policy states that the Plan including contact information will be reviewed at least annually and modified as appropriate. In the event the Company experiences a Worst Case Discharge, the effectiveness of the plan will be evaluated and updated as necessary. If a new or different operating condition or information would substantially affect the implementation of the Plan, the Company will modify the Plan to address such a change and, within 30 days of making such a change, submit the change to PHMSA. EPA must receive the change within 60 days.

The U.S. Coast Guard (USCG) requires that plan changes be submitted in 30 days. The plan review must occur within one (1) month of the anniversary date of the USCG approval letter. If no changes are required, the facility shall submit a letter to the USCG stating "No Changes Required."

Examples of changes in operating conditions that would cause a significant change to the Plan include:

CONDITIONS REQUIRING REVISIONS AND SUBMISSIONS	EPA	PHMSA	USCG	RCRA
Relocation or replacement of the transportation system in a way that substantially affects the information included in the Plan, such as a change to the Worst Case Discharge volume.	x	x		
A change in the Facility's configuration that materially alters the information included in the Plan.	x		x	
A change in the type of oil handled, stored, or transferred that materially alters the required response resources.	x	x	x	
A change in key personnel (Qualified Individuals).	x	x		x
Material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.	x	x	x	x
Material change in the Facility's spill prevention and response equipment or emergency response procedures.	x		x	x
Any other changes that materially affect the implementation of the Plan.	x	x	x	x
A change in the NCP or ACP that has significant impact on the equipment appropriate for response activities.		x		
A change in the name of the Oil Spill Removal Organization (OSRO).		x	x	
A change in the Facility's operating area that includes ports or geographic area.			x	
Applicable regulations are required.				x
The Plan fails in an emergency.				x

All requests for changes must be made through the Terminal Manager.

The most current version of the plan is always the electronic copy. Revisions to the site-specific information are made through the password protected maintenance interface. The date at the beginning of each Section indicates the last date that Section was revised. Any revisions made after that date should be reprinted and inserted into the paper copy of the plan.

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS

Click to view/print USCG Letter of Intent Sept 25 2007

September 25, 2007

Captain of the Port
U.S. Coast Guard
Portland, Oregon
6767 N. Basin Avenue
Portland, Oregon 97217

Dear Sir,

Shore Terminals LLC, a NuStar Energy, L.P. company, is submitting this Letter of Intent to Operate a large oil transfer facility. It is submitted in compliance with Section 154.110, Subpart A and Section 154.710, Subpart D of Part 154, Subchapter O, Chapter 1, Title 33 of the Code of Federal Regulations on Pollution Prevention as published in Volume 37, number 246 in the Federal Register on Thursday, December 21, 1972.

Terminal Operator / Owner: Shore Terminals, LLC, a NuStar Energy, L.P. Company
2330 North loop 1604 West
San Antonio, Texas 78248

Terminal Information: Nustar
9420 NW St. Helens Road
Portland, Oregon 97231
Terminal Manager – William (Bill) Dungan
(503) 286-6732 (phone)
(503) 969-4550 (fax)

The facility is geographically located at 9420 NW St. Helens Road in Portland, Oregon and is bounded by the Willamette River on the northeast and St. Helens Road (Hwy 30) on the southwest.

Below is the current list of persons designated as "Persons In Charge" of facility oil transfer operations:

William Dungan (QI), Todd Clark (QI), Eduardo Abreu (PIC), Danny Bundy (PIC), Robert Dowell (PIC), Mark Jacko (PIC), Mike Ochs (PIC), Lawrence Rice (PIC), Randy Taylor (PIC), William Padillas (PIC)

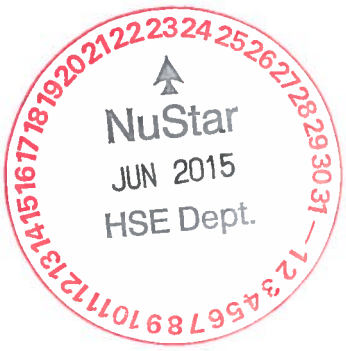
1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print DEQ FRP Approval 06/03/2015

Oregon
Kate Brown, Governor

Department of Environmental Quality
Headquarters
811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
FAX (503) 229-6124
TTY: 711

June 3, 2015



Steve Kober
NuStar Energy LP. – West Region
2368 Maritime Dr., Suite 275
Elk Grove, CA 95758

RE: Approval of Oil Spill Contingency Plan for NuStar Portland Terminal Submitted on August 19, 2014

Dear Mr. Kober:

Based upon our review, the Department of Environmental Quality (DEQ) grants approval to your submitted contingency plan pursuant to Oregon Revised Statutes 468B.300-500 and Oregon Administrative Rules 340-141. This approval will remain valid from June 3, 2015 through June 2, 2020 on the enclosed approval certificate.

DEQ approval does not constitute an express assurance regarding the adequacy of this plan nor does it constitute a defense to liability imposed under state law. Further, in accordance with OAR 340-141-0220, the DEQ must be notified as soon as possible and within 24 hours of any significant change which could affect implementation of the plan, including a substantial decrease in available spill response equipment or personnel. The plan holder shall also provide a schedule for the prompt return of the plan to full operational status. An email will be considered written notice for the purposes of this subsection.

Furthermore, NuStar Terminal must keep current with all provisions within the plan including training and exercise schedules. At a minimum NuStar Terminal must:

1) Conduct internal notification drills at least every 90 days.
2) Conduct 2 deployment drills annually
3) Conduct a tabletop exercise annually in accordance with NPREP standards

Congratulations in developing an excellent plan. We look forward to working with NuStar Portland Terminal in exercising the contents of the plan. Please do not hesitate to contact Scott Smith of my staff at (503) 229-5370 or smith.scott@deq.state.or.us with any questions or concerns.

Sincerely,

Bruce Gilles
Emergency Response Program Manager
Operations Division

Enclosures: Approval Certificate

cc: LCDR John Titchen, USCG MSU Portland
Richard Franklin, EPA Region 10
Linda Pilkey-Jarvis, Washington Dept of Ecology

The Oil Spill Contingency Plan

for

NuStar Portland Terminal
9420 NW Saint Helens Road
Portland, Oregon 97231

DEQ
State of Oregon Department of Environmental Quality

Has been approved pursuant to
Oregon Revised Statutes 468B.300-.500
and
Oregon Administrative Rules 340-141
by the
Oregon Department of Environmental Quality

Bruce Gilles
Manager
Emergency Response Program

June 2, 2015
Approval Date

June 2, 2020
Expiration Date

Oregon
Department of Environmental Quality
Land Quality Division HQ
811 SW Sixth Avenue - 7th Floor
Portland, OR 97204-1390

ADDRESS SERVICE REQUESTED

neopost
06/04/2015
US POSTAG

Steve Kober
Nu Star Energy L.P.
2368 Maritime Dr. Ste 375
Elk Grove, CA 95758

NUST368 957582704-1C14 06/12/15P
FORM 3547
:NUSTAR ENERGY LP
9280 W STOCKTON BLVD STE 220
ELK GROVE CA 95758-8077

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print EPA FRP Approval 07/17/2014

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

July 17, 2014

Chris Chan, Sr. HSE Manager
NuStar Energy L.P., Shore Terminal LLC
9280 West Stockton Blvd.
Elk Grove, CA 95758

RE: Review of FRP 81, Facility Response Plan, Portland Terminal, Portland OR

Dear Mr. Chan:

Pursuant to the Clean Water Act, 33 U.S.C. Section 1321(j)(5), as amended by the Oil Pollution Act of 1990, the United States Environmental Protection Agency (U.S. EPA) has reviewed your Facility Response Plan (FRP) and finds that it meets the requirements of Section 311(j)(5) of the Clean Water Act and 40 CFR 112.20(c)(4). Your FRP is approved for 5 years until July 15, 2020.

Note that, pursuant to 40 CFR 112.20(d)(1), the owner or operator of a facility for which a response plan is required shall revise and resubmit revised portions of the response plan to U.S. EPA within 60 days of each facility change that may materially affect the response to a worst case discharge. Changes which may require revisions to a response plan include:

- a change in the facility's configuration;
- a change in the type of oil handled, stored or transferred;
- a change in the capabilities of the oil spill response organization;
- a change in the facility's spill prevention and response equipment or emergency response procedures; and
- any other change that materially affects the implementation of the response plan.

In addition, 40 CFR Section 112.20(d)(2) provides that changes in personnel and telephone number lists included in an FRP do not require U.S. EPA approval, but should be supplied to U.S. EPA as the revisions occur.

If you have questions regarding this correspondence, please contact me at 907-271-3247 or Vivian Melde at 907-257-5000, ext. 3305.

Sincerely,

Robert S. Whittier, Jr.
On Scene Coordinator (OSC)
Emergency Preparedness and Prevention Unit

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print USCG FRP Approal 01/14/2019

U.S. Department of Homeland Security

United States Coast Guard

Captain of the Port
U. S. Coast Guard
Sector Columbia River

2185 SE 12th Place
Warrenton, OR 97146
Phone: (503) 240-9314

16611

JAN 14 2019

FIN#: PDX20054
MISLE#: 6596861

NuStar Portland
Attn: Bill Spackman
9420 NW St. Helens Rd
Portland, OR 97213

Dear Mr. Spackman,

My office has completed a final review of the Facility Response Plan that was submitted to meet the requirements of the Oil Pollution Act of 1990. No deficiencies were noted, and the plan is hereby approved. The expiration date of this approval is five years from the date stamp of approval. Please ensure you resubmit an updated plan every five years from this date, in accordance with 33 CFR 154.1060.

You are reminded to review your response plan annually as required in 33 CFR Section 154.1065 (a). If revisions are necessary, then you must submit the revisions to the Captain of the Port (COTP) and all other plan holders for information or approval, as appropriate. Changes at the facility that significantly affect the implementation of your plan must be submitted to the COTP within 30 days of the change.

I remind you that your plan is a vital working document and that implementing the plan will help ensure effective oil spill response and mitigation. Please ensure that all parties with responsibilities under the plan are familiar with the plan's procedures and requirements.

A copy of this letter shall be kept with your approved Facility Response Plan.

If you have any questions, please contact the Marine Safety Unit Portland Waterways Management and Facility Inspections Division at (503) 240-9333.

Sincerely,

T. A. GRIFFITTS
Captain, U. S. Coast Guard
by direction of the Captain of the Port

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print PHMSA FRP Approval 05/08/2019

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

May 8, 2019

Jeff Hibner
Terminal Manager
NuStar Portland Terminal
9420 NW St. Helens Road
Portland, OR 97231

RE: LETTER OF APPROVAL: Portland Terminal Facility Response Plan, Sequence Number: 1383, March 2019

Dear Mr. Hibner:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed Shore Terminals, LLC's amended Portland Terminal Facility Response Plan dated March 2019. We conclude that the plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194. Your response plan is approved.

This approval is valid for five years from the date of this letter. If discrepancies are found during PHMSA inspections, or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

David K. Lehman, Director
Oil Spill Preparedness and Emergency Support Division
Office of Pipeline Safety

cc: PHMSA Western Region

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print DOT FRP Approval 04/15/2020

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

April 15, 2020

Chris Chan
Senior HSE Manager
NuStar Energy L.P.
9280 West Stockton Boulevard
Elk Grove, CA 95758

Subj: Approval of the Shore Terminals, LLC, Portland Terminal Facility Response Plan

Dear Mr. Chan:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed the Shore Terminals, LLC, Portland Terminal Facility Response Plan (Sequence Number: 1383) dated September 2019. We conclude that the plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194. Your response plan is approved.

This approval is valid for five years from the date of this letter. If discrepancies are found during PHMSA inspections, or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

Rick Raksnis

Rick Raksnis, Acting Supervisor
Oil Spill Preparedness Branch
Preparedness, Emergency Support and Security Division
Office of Pipeline Safety

cc: PHMSA Western Region

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print USCG FRP Approval 04/13/2020

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Unit Portland

6767 N Basin Ave
Portland, OR 97217
(503)240-9310

16611
APR 13 2020

FIN#: PDX20054
MISLE#: 6934610

NuStar Logistics LLC
Attn: Chris Chan
9280 W Stockton Blvd., Suite 220
Elk Grove, CA 95758

Dear Sir or Madam:

My office has completed a final review of NuStar Logistics LLC's proposed amendment to the Facility Response Plan submitted to meet the requirements of Title 33 Code of Federal Regulations Part 154. No deficiencies were noted, and the Facility Response Plan amendment is hereby approved.

Please continue to submit any future amendments to the Captain of the Port (COTP) and all other plan holders for information or approval, as appropriate. Changes at the facility that significantly affect the implementation of your plan in the future must be submitted to the COTP within 30 days of the change. You are reminded that your Facility Response Plan is due to expire on January 14, 2024.

Your cooperation and effort to safeguard the environment and the port are greatly appreciated. Maintain a copy of this letter with each copy of your Facility Response Plan. If you have any questions, please contact the Marine Safety Unit Portland Waterways Management and Facility Inspections Division at (503) 240-9333.

Sincerely,

A. H. MOORE, JR.
Captain, U. S. Coast Guard
By direction of the Captain of the Port

March 24, 2020

Captain of the Port
SAC/WWM
USCG – MSU Portland
6767 N Basin Ave.
Portland, OR 97217

Subject: **Facility Response Plan and ERAP Update (P-030)**
Shore Terminal LLC
9420 N.W. St. Helens Road
Portland, OR 97231

To whom it may concern:

Attached are updated sections of the Facility Response Plan and ERAP. Update includes:

1) FRP -Table of Contents – This section contains the Record of Changes.
2) Section 3 – Notification contact update for Internal Emergency Response Team members.
3) FRP - Section 5 – Update the Section 5.4 relating to Health and Safety Plan. A new Health and Safety Plan (HASP) was developed per WA Ecology's direction. This HASP is incorporated into other NuStar's facility. Section 5 references this new HASP that is placed in Appendix G.
4) FRP - Appendix D – Planning Distance update. This section is updated to include details in calculation reflective to the site location. Previous information has calculation and factor errors.
5) FRP - Appendix G – Cover page and Health and Safety Plan
6) ERAP – Section 3 Notification update of internal Emergency Response Team contacts.

If you have any question, please do not hesitate to contact me.

Sincerely,

Chris Chan
Sr. HSE Manager
Chris.Chan@NuStarEnergy.com
(916) 296-3853

Enclosures: 1) FRP and ERAP sections as specified above.
2) e-copy of FRP and ERAP

1.3 AGENCY SUBMITTAL / APPROVAL LETTERS, CONTINUED

Click to view/print PHMSA FRP Update Approval 2020 09 01

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

September 1, 2020

Chris Chan
Sr. HSE Manager
NuStar Energy L.P.
9280 West Stockton Boulevard
Elk Grove, CA 95758

Subj: Approval of the Shore Terminals, LLC, Portland Terminal Emergency Response Action Plan and Facility Response Plan

Dear Mr. Chan:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed the Shore Terminals, LLC, Portland Terminal Emergency Response Action Plan and Facility Response Plan, (Sequence Number: 1383) dated March 2020. We conclude that the plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194. Your response plan is approved.

This approval is valid for five years from the date of this letter. If discrepancies are found during PHMSA inspections, or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

Rick Raksnis

Rick Raksnis, Supervisor
Oil Spill Preparedness Branch
Preparedness, Emergency Support and Security Division
Office of Pipeline Safety

cc: PHMSA Western Region

1.4 CERTIFICATION OF ADEQUATE RESOURCES

OIL SPILL CONTINGENCY PLAN

CERTIFICATION
Pursuant to the Clean Water Act Section 311(j)(5)(F)

(Owner)

The undersigned, the owner or operator of the above referenced Facility who is authorized to sign this certification on behalf of the Company, hereby certifies that the above referenced pipeline has prepared a response plan which will be implemented in the event of a Worst Case Discharge of oil. I also certify that the plan is in effect for this pipeline and that Company personnel are trained in the implementation of this Plan.

I further certify that the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a Worst Case Discharge or a substantial threat of a discharge is ensured by contract or other approved means.

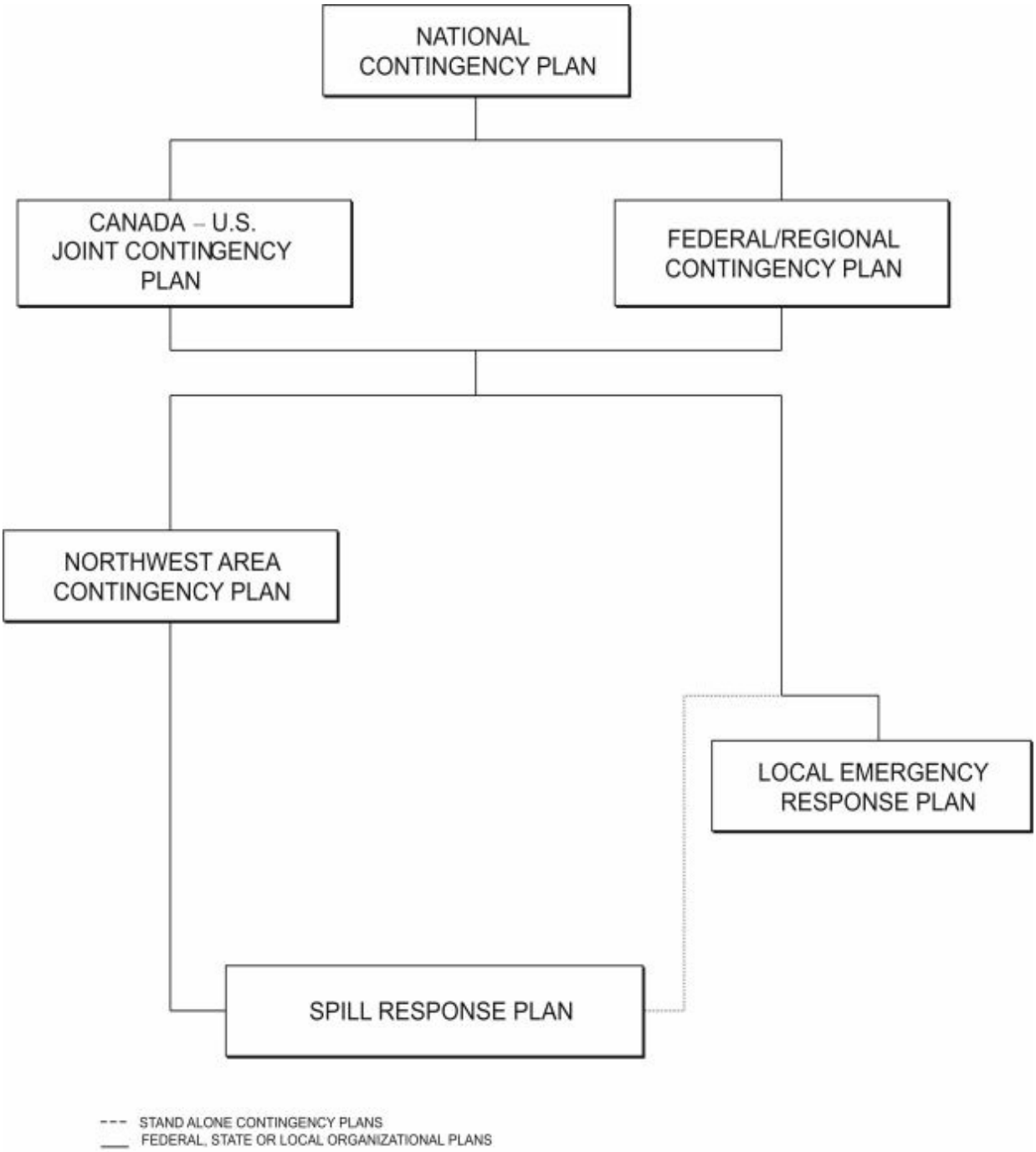
Acceptance Verification: This verifies acceptance of this Spill Response Plan for the (Owner). This Plan will be used by facility personnel when responding to an oil spill. This Plan will be used in conjunction with the Emergency Action Plan and Response Guide when necessary. The District Manager or designee has the authority to make appropriate expenditures in order to execute the provisions of this Plan. The District Manager or designee will be considered the "Qualified Individual." An Incident Commander will be in the state within six hours after notification of a spill.

Ryan Groesbeck
Terminal Manager

1.5 INTERFACE WITH OTHER PLANS

This Plan interfaces with other federal, state, and local plans as outlined in **FIGURE 1-6**.

FIGURE 1-6 - INTERFACE WITH OTHER PLANS



SECTION 2
INITIAL RESPONSE ACTIONS

Last Revised: March 9, 2022

© Jensen Hughes 2023

2.1 Spill Response

Figure 2.1-1 - Spill Response Flow Chart

Figure 2.1-2 - Spill Response Action Checklist

2.1.1 Spill Detection and Mitigation Procedures

Figure 2.1-3 - Spill Mitigation Procedures

2.1.2 Spill Surveillance Guidelines

Figure 2.1-4 - Spill Surveillance Checklist

2.1.3 Spill Volume Estimating

Figure 2.1-5 - Spill Estimation Factors

2.1.4 Estimating Spill Trajectories

2.1.5 Initial Containment Actions

2.1.6 Safety Considerations

2.2 Evacuation

2.3 Tornado

2.4 Flood

2.5 Medical

2.6 Bomb Threat

2.7 Fire and/or Explosion

2.8 Vapor Cloud

2.9 Additional Checklists

2.1 SPILL RESPONSE

FIGURE 2.1-1 - SPILL RESPONSE FLOW CHART

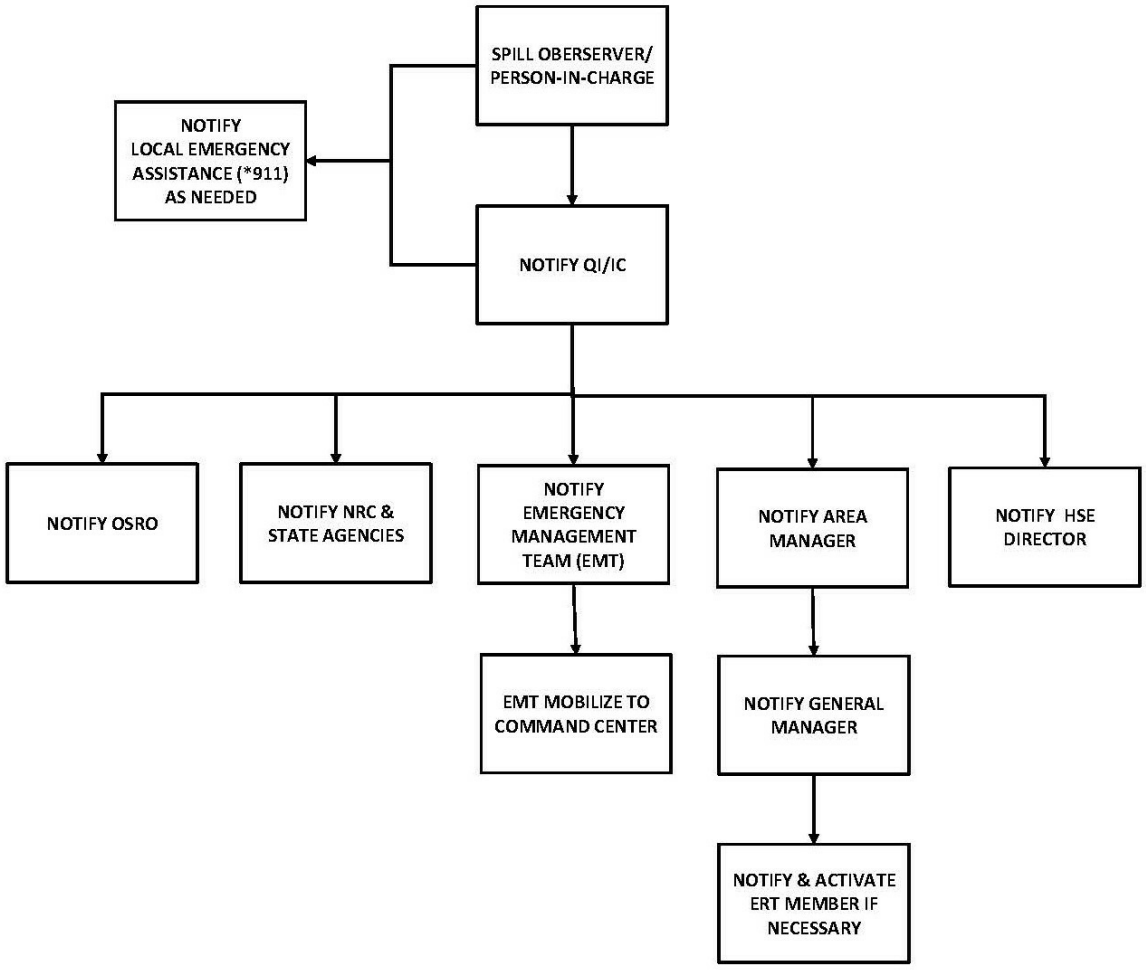


FIGURE 2.1-2 - SPILL RESPONSE ACTION CHECKLIST

Response Action

	Response Action
☐	**First Person to Discover Spill**
☐	Immediately notify Terminal Management. Take appropriate action to protect life and ensure safety of personnel. Contact the appropriate local emergency responders or request the office to do so.
☐	Immediately shut down terminal operations (if applicable). Remotely controlled motor operated valves should be closed as soon as a leak is detected. Manual operated valves should be closed if safe to do so.
☐	Secure the scene. Isolate the area and assure the safety of people and the environment. Keep people away from the scene and outside the safety perimeter.
☐	Begin the ICS process by developing ICS 201 form along with "Initial Site Safety/Assessment - WR". "Initial Site Safety Assessment - WR" is a guide to determine if the area is safe for entry. (**SECTION 5.3.1**)
☐	Update the initial notification if initial spill report volume or the extent of the area affected by the spill significantly changes.
☐	**Terminal Management**
☐	If the volume of spill is uncertain, notify NRC and DEQ.
☐	Make local notifications as needed: • 911, if necessary, including LEPC, Police, Fire or Sheriff • QI or other internal notifications. • Oil Spill Response Contractor • Required notifications to NRC • Additional notifications as necessary
☐	Assume role of Incident Commander until relieved by upper Management (if applicable).
☐	Conduct preliminary assessment of health and safety hazards.
☐	Evacuate nonessential personnel, notify emergency response agencies to provide security, and evacuate surrounding area (if necessary).
☐	Call out Emergency Management Team and primary spill response contractors, as needed (**FIGURE 3.1-5**).
☐	Notify the Terminal Management and provide an incident briefing. Evaluate the need for activating the Incident Management Team (IMT).
☐	Notify the Regional Area Manager/General Manager and Regional HSE Director.
☐	If safe to do so, direct facility responders to shut down potential ignition sources in the vicinity of the spill, including motors, electrical pumps, electrical power, flairs, etc. Keep drivers away from truck rack if spill occurs there
☐	If safe to do so, direct facility responders to shut down and control the source of the spill. Be aware of potential hazards associated with product and ensure that lower explosive limits (LELs) are within safe levels before sending personnel into the spill area.
☐	If safe to do so, direct facility responders to stabilize and contain the situation. This may include construction of minor earthen berms and/or sorbent boom and pads.
☐	For low flash oil (<100°F), consider applying foam over the oil, using water spray to reduce vapors, grounding all equipment handling the oil, and using non-sparking tools.
☐	If there is a potential to impact shorelines, consider lining shoreline with sorbent or diversion boom to reduce impact.
☐	Notify Local Emergency Responders. Obtain the information necessary to complete the Leak Accident Report Form (**FIGURE 3.1-3**).
☐	**HSE Regional Director**
☐	Ensure appropriate notifications are made: • National Response Center (800) 424-8802 • The HSE Regional Director, or his/her designee, will provide a Safety Data Sheet (SDS) to the designated Federal On-Scene Coordinator and appropriate State and local emergency responders within 6 hours of a telephonic or electronic notice of the accident to the National Response Center. • External regulatory notifications (**FIGURE 3-5)**

Response Action, Continued

	Response Action, Continued
☐	**Incident Management Team**
☐	Activate all or a portion of Incident Management Team (IMT) (as necessary). HSE Department will maintain contact with notified regulatory agencies.
☐	Mobilize spill response contractors (if necessary). It is much better to demobilize equipment and personnel if not needed than to delay contacting them if they are needed.
☐	Document all response actions taken, including notifications, agency/media meetings, equipment and personnel mobilization and deployment, and area impacted. (Refer to **SECTION 5** for documentation.)
☐	Water-based Spills: Initiate spill tracking and surveillance operations. Determine extent of pollution via surveillance aircraft or vehicle. Estimate volume of spill utilizing information in **SECTION 2.1.3**. Send photographer / videographer, if safe. Use of dispersants requires Federal or State approval.
☐	Land-based Spills: Initiate spill tracking and surveillance, if applicable.
☐	**SECONDARY RESPONSE ACTIONS** (Refer to IMT job descriptions in **SECTION 4.6**)
☐	**FACILITY-SPECIFIC RESPONSE CONSIDERATIONS** (Refer to **SECTION 6** for maps, tactical plans, and sensitivity information.)

Site Specific Actions

	Site Specific Actions
☐	**DOCUMENT ALL ACTIONS TAKEN**
☐	**First Priority**
☐	Account for all personnel and visitors.
☐	Identify and assess fire/safety hazards.
☐	Use "**Initial Site Safety Assessment - WR**" to identify safety hazards (see **SECTION 5.3.1**).
☐	**Second Priority**
☐	Secure spill source, if possible.
☐	Assure all required notifications are conducted.
☐	Secure all drainage leading from Facility.
☐	**Third Priority**
☐	Facility drainage and secondary containments is designed to adequately contain a spill of small and medium size, preventing it from reaching the river or nearby waterway. Once the spill has been contained, resources are present at the facility to recover spilled product when safety conditions permitting.
☐	If unable to contain spill to Facility property, refer to SECTION 6 of FRP.
☐	Once deployment of response equipment has been completed, initiate recovery of product.
☐	Upon arrival of IMT, assure all information is accurate and complete prior to being released.
☐	Assure proper documentation has been completed from initial discovery of spill to finish; reference **SECTION 5**.

2.1.1 Spill Detection and Mitigation Procedures

See **APPENDIX D.5** for spill detection protocols.

Each spill mitigation situation is unique and must be treated according to the circumstance present. In every situation, however, personnel safety must be assessed as the first priority. The potential for ignition and/or toxic exposure must be promptly evaluated. Spill mitigation procedures are listed in **FIGURE 2.1-3**. Discharge volume calculations are provided in **APPENDIX D**.

FIGURE 2.1-3 - SPILL MITIGATION PROCEDURES

TYPE	MITIGATION PROCEDURE
Failure of Transfer Equipment	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations and close block valves. 3. Drain product into containment areas (if possible). 4. Eliminate sources of vapor cloud ignition by shutting down all engines and motors.
Tank Overfill/Failure	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down or divert source of incoming flow to tank. 3. Shut down source of vapor cloud ignition by shutting down all engines and motors. 4. Ensure that dike discharge valves are closed. 5. Transfer fluid to another tank with adequate storage capacity (if possible). 6. Monitor diked containment area for leaks and potential capacity limitations. 7. Begin transferring spilled product to another tank as soon as possible.
Piping Rupture/Leak (under pressure and no pressure)	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down pumps. Close the closest block valves on each side of the rupture. 3. Drain the line back into contained areas (if possible). Alert nearby personnel of potential safety hazards. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. If piping is leaking and under pressure, relieve pressure by draining into a containment area or back to a tank (if possible). Then repair line according to established procedures.
Fire/Explosion	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at risk of injury. 2. Notify local fire and police departments. 3. Attempt to extinguish fire if it is in incipient (early) stage and **if it can be done safely**. 4. Shut down transfer or pumping operation. Attempt to divert or stop flow of product to the hazardous area (if it can be done safely). 5. Eliminate sources of vapor cloud ignition by shutting down all engines and motors. 6. Control fire before taking steps to contain spill. Also refer to fire/explosion response procedures in **SECTION 2.7**.
Manifold Failure	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations immediately. 3. Isolate the damaged area by closing block valves on both sides of the leak/rupture. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. Drain fluids back into containment areas (if possible).

2.1.2 Spill Surveillance Guidelines

- Surveillance of an oil spill should begin as soon as possible following discovery to enable response personnel to assess spill size, movement, and potential impact locations.
- All surveillance should be done upwind of the spill.
  Dispatch observers to crossings downstream or downgradient to determine the spill's maximum reach.
- Clouds, shadows, sediment, floating organic matter, submerged sand banks, or wind-induced patterns on the water may resemble an oil slick if viewed from a distance.
- Sorbent pads may be used to detect oil on water.
- Use surface vessels to confirm the presence of any suspected oil slicks (if safe to do so); consider directing the vessels and photographing the vessels from the air, the latter to show their position and size relative to the slick.
- It is difficult to adequately observe oil on the water surface from a boat, dock, or shoreline.
- Spill surveillance is best accomplished through the use of helicopters or small planes; helicopters are preferred due to their superior visibility and maneuverability.
- If fixed-wing planes are to be used, high-wing types provide better visibility than low-wing types.
- All observations should be documented in writing and with photographs and/or videotapes.
- Describe the approximate dimensions of the oil slick based on available reference points (i.e., vessel, shoreline features, facilities); use the aircraft or vessel to traverse the length and width of the slick while timing each pass; calculate the approximate size and area of the slick by multiplying speed and time.
- Record aerial observations on detailed maps, such as topographic maps.
- In the event of reduced visibility, such as dense fog or cloud cover, boats may have to be used to patrol the area and to document the location and movements of the spill; however, this method may not be safe if the spill involves a highly flammable product.
- Surveillance also is required during spill response operations to gauge the effectiveness of response operations; to assist in locating skimmers; and to assess the spill's size, movement, and impact.
- A Spill Surveillance Checklist is provided in **FIGURE 2.1-4**.
- The facility OSRO(s) has the capability to use tracking buoys and performs low tech assessment procedures, such as the use of boom lights tied to a buoy to mark the leading edge of a spill.
- The facility's OSRO(s) has the capability and access to use thermal and/or infrared imagery system for surveillance.
- Obtain aerial oil tracking resources for supporting oil spill removal operations as necessary.

FIGURE 2.1-4 - SPILL SURVEILLANCE CHECKLIST

Record your observations of spilled oil either in a notebook or directly on a chart of the area under observation. This checklist is an aid for organizing your observations.

General Information	
Date:	Tidal or river stage (flood, ebb, slack, low water):
Time:	On-scene weather (wind, sea state, visibility):
Incident name:	Platform (helicopter, fixed-wing aircraft, boat, shore):
Observer's name:	Flight path/trackline:
Observer's affiliation:	Altitude where observation taken:
Location of source (if known):	Areas not observed (i.e., foggy locations, restricted air or land spaces, shallow water areas):
Oil Observations	
Slick location(s):	Color and appearance (i.e., rainbow, dull or silver sheen, black or brown in color or mousse):
Slick dimensions:	Percent coverage:
Orientation of slick(s):	Is oil recoverable (Y/N)?:
Distribution of oil (i.e., windrows, streamers, pancakes or patches):	
Considerations	
• During surveillance, travel beyond known impacted areas to check for additional oil spill sites. • Include the name and phone number of the person making the observations. • Clearly describe the locations where oil is observed and the areas where no oil has been seen.	
Other Observations	
Response Operations	
Equipment deployment (general locations where equipment is working and whether the work is done in the heaviest concentration of oil):	
Boom deployment (general locations of boom, whether the boom contains oil, and whether the oil entrains under the boom):	

FIGURE 2.1-3 - SPILL SURVEILLANCE CHECKLIST, CONTINUED

Record your observations of spilled oil either in a notebook or directly on a chart of the area under observation. This checklist is an aid for organizing your observations.

Environmental Observations
Locations of convergence lines, terrain, and sediment plumes:
Locations of debris and other features that could be mistaken for oil:
Wildlife present in area (locations and approximate numbers):
Spill Sketch

2.1.3 Spill Volume Estimating

Early in a spill response, estimation of spill volume is required in order to:

- Report to agencies.
- Determine liquid recovery requirements.
- Determine personnel and equipment requirements.
- Estimate disposal and interim storage requirements.

Some rapid methods to estimate spill size are:

- Transfer operations: Multiply the pumping rate by the elapsed time that the leak was in progress, plus the drainage volume of the line between the two closest valves or isolation points (volume loss = pump rate [bbls/min] x elapsed time [min] + line contents [bbl]).
- Tank overfills: Elapsed time multiplied by the pumping rate.
- Visual assessment of the surface area and thickness (**FIGURE 2.1-5**); the method may yield unreliable results because:
    - Interpretation of sheen color varies with different observers.
    - Appearance of a slick varies depending upon amount of available sunlight, sea-state, and viewing angle.
    - Different products may behave differently, depending upon their properties.

FIGURE 2.1-5 - SPILL ESTIMATION FACTORS

OIL THICKNESS ESTIMATIONS				
Standard Form	Approx. Film Thickness		Approx. Quantity of Oil in Film	
	inches	mm	gallons/mile^2	liters/km^2
Barely Visible	0.0000015	0.00004	25	44
Silvery	0.000003	0.00008	50	88
Slightly colored	0.000006	0.00015	100	179
Brightly colored	0.000012	0.0003	200	351
Dull	0.00004	0.001	666	1,167
Dark	0.00008	0.002	1,332	2,237
Thickness of light oils: 0.0010 inches to 0.00010 inches				
Thickness of heavy oils: 0.10 inches to 0.010 inches				

NOAA, 09/2000

2.1.4 Estimating Spill Trajectories

In some cases, oil spill trajectories should be estimated in order to predict direction and speed of the slick movement. Trajectory calculations provide an estimate of where oil slicks may impact shorelines and other sensitive areas, and also provide an estimate of the most effective location in which to mobilize spill response resources for protection, containment, and recovery.

Oil spill trajectories can be estimated using vector addition or with computer programs. Hand calculations typically utilize the following assumptions:

- Oil moves at approximately the same direction and speed as the water currents, unless the winds are strong.
- Wind speed can be multiplied by 0.034 to determine the effect of winds on speed and direction of spill movement.
- The combined effects of winds and currents can be added to estimate spill movement speed and direction.

More sophisticated predictions can be obtained from computer programs. Oil spill trajectory services can be obtained from:

- National Oceanic and Atmospheric Administration (NOAA) through the Federal On-Scene Commander (FOSC)
- Private consulting firms

2.1.5 Initial Containment Actions

Initial containment actions will focus on utilizing containment on-site in the most effective manner to:

- Prevent the oil from impacting water, thereby reducing the surface area and the shoreline to be cleaned.
- Concentrate the oil (when safe to do so), making physical recovery more efficient.
- Limit the environmental impact to the immediate spill area.

Selection of the appropriate location and method will depend upon:

- Length of time spill occurs before being noticed,
- Amount of spill,
- Area of coverage,
- Environmental factors such as wind speed and direction, and
- Oil's characteristics.

2.1.6 Safety Considerations

- Containment actions should not be conducted during inclement weather or unsafe conditions, such as high winds, fast currents, or unstable terrain.
- Eliminate all ignition sources.
- Avoid contact with the spilled product.
- Use respiratory protection (if trained to do so).
- Ensure that the area remains secure to air/boat/vehicular traffic.

2.2 EVACUATION

	2.2 Evacuation
☐	**TASK**
☐	Request assistance from off-site response organizations; convey Command Post's location. Notify appropriate agencies (if appropriate).
☐	Assemble personnel at predetermined safe location: upwind/up gradient of release (assembly area).
☐	Account for Company and contractor personnel.
☐	Assess casualties (number/type/location).
☐	Determine probable location of missing personnel.
☐	Secure site, establish re-entry point and check-in/check-out procedures.
☐	Develop list of known hazards (confined spaces, electrical hazards, physical hazards, vapors, oxygen deficiency, fire/explosion, etc.).
☐	Monitor situation (weather, vapors, product migration) for significant changes.
☐	Assist in developing a Rescue Plan, if necessary.
☐	Site Specific Actions
☐	Announce emergency and evacuate facility personnel, contractors, visitors and drivers.
☐	Muster at the assembly area next to the Main Office lower parking.
☐	Do not allow anyone to start motor vehicle ignitions.
☐	Send an employee to the entrance gate to direct traffic, allow only emergency responders to enter the terminal.
☐	Perform head count and account for all persons at terminal.
☐	Notify neighboring facilities of the evacuation if needed.
☐	If safe to do so, retrieve a copy of the FRP/ERAP, work permits, visitors sign in log, any available cell phones, terminal 2-way radios, and LEL meter prior to reporting to mustering point.

Evacuation Factors

EVACUATION FACTORS	
FACTOR	**DESCRIPTION**
Stored material location	• Located in oil storage area • Identified in facility Plot Plan (**APPENDIX C**)
Spilled material hazards	• Hazard is fire/explosion
Water currents, tides or wave conditions	• Water current: 1 knot, Tides: 1.5 ft. tide, Wave Conditions: Not Applicable
Evacuation Routes	• Routes are summarized on Evacuation Plan Diagram (**APPENDIX C**) • Criteria for determining safest evacuation routes from facility may include: wind direction, potential exposure to toxins and carcinogens, intense heat, potential for explosion/fire, and blockage of planned route by fire, debris, or released liquid
Alternate evacuation routes	• Alternate routes may exist; refer to Evacuation Plan Diagram (**APPENDIX C**)
Injured personnel transportation	• Emergency vehicles can be mobilized to the facility (**FIGURE 3.1-6**)
Alarm/Notification system location	• Two-way radio - Operator's office, Main Office and carry by operators and contractors in the field. Emergency audio alarm (siren) - Alarm switch @ Main Office.
Community evacuation plans	• Company may request local police, county sheriff, and/or state police assistance (**FIGURE 3.1-6**). Community evacuations are the responsibility of these agencies.
Spill flow direction	• Surface drainage is towards the river (north). • Identified in Facility Drainage Diagram (**APPENDIX C**)
Prevailing wind direction and speed	• West to East 5 mph • Because wind direction varies with weather conditions, consideration for evacuation routing will depend in part on wind direction
Emergency personnel/response equipment arrival route	• The primary arrival route of emergency response personnel and response equipment is N.W. St. Helens Road. • Directions to nearest medical facility provided below
Centralized check-in area	• The primary muster point is the main gate. In the event the primary muster point is not accessible, the secondary muster point is at the end of the frontage road, next to the railroad crossing. • Supervisor or designee is responsible for head count
Mitigation Command Center location	• The main office will be the mitigation command center and the location of shelter at the Facility if conditions permit. • Mobile Command Posts may be established as necessary
Facility Shelter Location	• The main office will be the mitigation command center and the location of shelter at the Facility if conditions permit. • Not a safe harbor from fires, explosions, vapor clouds, or other significant emergencies; however, may be used for temporary shelter from inclement weather
Directions to nearest medical facility	Directions to Good Samaritan: • 1040 NW 22nd Ave.; Portland, OR 97210. Start on US-30 [Lower Columbia River Hwy.] (South-East) 5.2 miles. Turn right (West) onto NW Nicolai Street 0.1 miles. Turn left (South) onto NW 24th Avenue 0.8 miles. Turn left (East) onto NW Lovejoy Street 0.2 miles. Arrive at Good Samaritan Hospital.

2.3 TORNADO

	2.3 Tornado
☐	**TASK**
☐	Monitor news media reports (**FIGURE 3.1-6**). • Tornado watch means conditions are favorable for tornadoes. • Tornado warning means a tornado has been sighted.
☐	When a tornado warning is issued, immediately notify all personnel on-site. Notify off-site personnel of the situation (Control Center or Regional Management).
☐	Take shelter: • Go to an interior room on the lowest floor. • Get under a sturdy piece of furniture or solid structure. • Use your arms to protect head and neck.
☐	Have location personnel report to the designated area.
☐	Account for all personnel on duty.
☐	Look for funnel formations on the ground or in the clouds; listen for a roar that sounds like a jet aircraft or rail traffic.
☐	If the facility is damaged by the tornado, notify Management.
☐	Go to the scene of the incident to evaluate the situation. • Be aware of broken glass and downed power lines. • Assess the area for damaged equipment or product releases. • Check for injuries. • Use caution entering a damaged building.
☐	Update Supervisory Personnel/Management.
☐	Conduct post-emergency evaluation and report.

2.4 FLOOD

	2.4 Flood
☐	**TASK**
☐	Perform continuous monitoring of the situation by listening to radio and/or television reports (**FIGURE 3.1-6**). • Flash flood watch means flooding is possible. • Flash flood warning means flooding is occurring or is imminent.
☐	Update Supervisory Personnel when flooding is imminent.
☐	Establish an evacuation plan (**SECTION 2.2**).
☐	Take preliminary actions to secure the facility before flooding and mandatory evacuation.
☐	Consider having sandbags brought to sites that could be affected by the flooding.
☐	Consider obtaining portable pumps and hoses from local suppliers or from other petroleum service locations in the area.
☐	Remove product from underground storage tanks (i.e., sumps and separators, if applicable) and replace with water to prevent them from floating out of the ground.
☐	If additional new product is available fill each tank to the minimum level necessary to prevent buoyancy in the event of flooding (Rule of thumb is 30% of the safe fill height). If additional product is not available, transfer appropriate product among tanks to prevent buoyance. If minimum levels cannot be reached through product transfer, add water bottoms.
☐	Plug all rack drains and facility drains connected to the sump.
☐	Empty all dikes of water.
☐	Ensure that tank roof drains are working properly.
☐	Anchor all bulk additive tanks, fuel barrels, empty drums, and propane tanks (if applicable).
☐	Notify Supervisory Personnel/Management that the facility will be closed. Customer should be notified.
☐	If it is safe to do so, shut down all active transfers and operations (including boiler). Close all valves on product and additive storage tanks.
☐	Before evacuation, know where all the employees will be residing and obtain phone numbers so they can be contacted if additional emergencies occur.
☐	Maintain hazards awareness: • Structural damage; • Equipment damage and product releases; • Downed power lines; • Leaking natural gas, water, and/or sewer lines; • Poisonous snakes and other wildlife sheltering in structures, vehicles, and furniture; and • Avoid direct contact with flood water, mud, and animal carcasses.
☐	Conduct a post-emergency evaluation and report.

2.5 MEDICAL

	2.5 Medical
☐	**TASK**
☐	Summon Emergency Medical Services (EMS) to the scene (**FIGURE 3.1-6**).
☐	Do not move the patient unless a situation (such as a fire) threatens the patient's life.
☐	If trained, provide appropriate first aid for both injury and shock until the EMS arrives at the scene.
☐	As the situation warrants, try to stop the bleeding and keep the patient breathing until the EMS arrives at the scene.
☐	The rescuer's role includes: • Removing the patient from any situation threatening patient's life or the lives of rescuers. • Correcting life-threatening problems and immobilizing injured parts before transporting the patient. • Transporting the patient in a way that minimizes further damage to injured parts. • Administering essential life support while the patient is being transported. • Observing and protecting the patient until medical staff can take over. • Administering care as indicated or instructed.
☐	Notify Supervisory Personnel and/or Regional Management.
☐	Notify victim's immediate family.
☐	Complete follow-up and written reporting, as the situation demands.

2.6 BOMB THREAT

	2.6 Bomb Threat
☐	**BOMB THREAT BY PHONE CHECKLIST**
☐	Handle the call.
☐	Treat the threat as real; **safeguard life**.
☐	Maintain a log to record all events. • Begin with the receipt of the threat and continue until the episode is finished with all areas secure. • The log should include the names of agencies and individuals contacted and the time, date, and action taken or requested.
☐	All evidence in conjunction with the threat should be retained and preserved.
☐	Keep the caller on the line; ask the following questions: • When is the bomb going to explode? • Where is the bomb right now? • What kind of bomb is it? • What will cause it to explode? • Why?
☐	Listen for any background sounds.
☐	Listen for any distinguishing characteristics of the caller's voice.
☐	Evacuate the premises.
☐	Notify the police (911) and Supervisory Personnel.
☐	If a detonation occurs, refer to **SECTION 2.2**.
☐	Conduct a post-emergency evaluation and report.
☐	**Do not use radios within 1,000 feet of an area that may contain a bomb.** **Do not turn on/off lights or use other electrical switches.**
☐	**BOMB THREAT BY OTHER COMMUNICATION CHECKLIST**
☐	Frequently seen devices include letter bombs, soft cover pocketbook bombs, hard cover book bombs, manila envelope bombs, and the cardboard box bombs. While many are delivered by U.S. mail, they may come by private courier or carrier. Be alert to recognize suspicious-looking items. The following conditions represent some of the possible suspicious characteristics: • Special handling marks (special delivery, air mail, registered, certified); • Restrictive markings (personal, confidential, addressee only); • Excessive postage; • Handwritten or poorly typed address; • Incorrect title or title but no names; • Misspelling of common words; • Oily stains or discolorations; • No return address; • Excessive weight; • Lopsided, uneven, or ridged envelope; • Protruding wires or tin foil; • Excessive securing material (tape, string, etc.); • Any evidence that the envelope has been reopened and reglued; or • Mail item from a new or strange source.

2.6 BOMB THREAT, CONTINUED

	2.6 Bomb Threat, Continued
☐	**BOMB THREAT BY OTHER COMMUNICATION CHECKLIST, Continued**
☐	If you have a suspicious-looking letter or package: • **DO NOT TRY TO OPEN IT.** • Isolate it and evacuate to a safe distance.
☐	Notify the Facility Management. If supervision is not present, call the appropriate local government agencies listed in **FIGURE 3.1-6** and inform them of the bomb threat.

2.7 FIRE AND/OR EXPLOSION

	2.7 Fire and/or Explosion
☐	**TASK**
☐	**At a manned facility**
☐	Evaluate the situation; approach cautiously from upwind; do not rush in.
☐	Notify the local police and fire departments (Dial 911).
☐	Sound the facility alarm and push the red emergency shutdown switch (if equipped).
☐	Notify Qualified Individual and Operations Control (if applicable).
☐	Appropriately trained personnel may attempt to extinguish the fire if it is in the incipient (early) stage and **if it can be done safely.**
☐	In the event the fire is too large for an individual to fight alone, the individual sounding the alarm or making the phone call should stand by at a safe distance to direct the fire department to the scene of the fire and keep personnel and vehicles from entering the danger area.
☐	Alert all Facility areas of the exact location and extent of the fire.
☐	Instruct all drivers to discontinue loading, disconnect loading arms, and tell all drivers present to stand by the trucks (if safe to do so) and wait for instructions to remove same to safe area.
☐	Shut off all pumps.
☐	If the fire/explosion is a result of a pipe rupture, isolate product release by closing valves.
☐	If product is being received from pipelines, notify the appropriate pipeline personnel of the fire and request that the pipeline be shut down. The tank which is receiving product from the pipeline must not be closed until assurance is received that the pipeline is shut down, unless that tank is on fire.
☐	After confirmation has been received that pipelines have been shut down, close the pipeline header valves.
☐	Undertake basic site control: • Make an assessment of hazards. • Isolate the area. • Keep people away from the scene and outside the safety perimeter. • Establish safety zones and escape routes.
☐	Respond to the fire: • Establish a Command Post and lines of communication. • Maintain site control. • Establish Incident Command/Unified Command as necessary (**SECTION 4.4**).

2.7 FIRE AND/OR EXPLOSION, CONTINUED

	2.7 Fire and/or Explosion, Continued
☐	**At a manned facility, Continued**
☐	Call in additional resources if on-scene personnel and equipment are inadequate to handle the emergency.
☐	Conduct a post-emergency evaluation and report.
☐	**TASK**
☐	**At an unmanned facility**
☐	Accept calls from alarm monitoring company identifying where the alarm was triggered.
☐	Notify the local police and fire departments.
☐	Notify Qualified Individual and Operations Control.
☐	Go to the incident scene to evaluate the situation; approach cautiously from upwind; do not rush in.
☐	Undertake basic site control: • Make an assessment of hazards. • Isolate the area. • Keep people away from the scene and outside the safety perimeter. • Establish safety zones and escape routes.
☐	If roads or railroads are in the affected area, assist the sheriff or local emergency officials with halting traffic.
☐	Update the next level manager.
☐	If the fire/explosion is a result of a pipe rupture, isolate the product release by closing valves.
☐	Respond to the fire: • Establish a Command Post and lines of communication. • Maintain site control. • Establish Incident Command/Unified Command as necessary (**SECTION 4.4**).
☐	Call in additional resources if on-scene personnel and equipment are inadequate to handle the emergency.
☐	Conduct a post-emergency evaluation and report.

2.8 VAPOR CLOUD

	2.8 Vapor Cloud
☐	**TASK**
☐	The person who discovers the vapor cloud will notify the facility management on duty and vacate the area.
☐	**Remember: the only proper action in the presence of a vapor cloud is to get away from it. Do not shut off electrical equipment.**
☐	All personnel will report to the evacuation muster point for roll call and further instructions.
☐	After all personnel have been accounted for, the Terminal Management, the Facility Supervisor, or a Facility Operator will initiate the following actions as deemed necessary: • Shut down pipeline. • Evacuate adjacent property. • Only the fire department will be permitted to enter the Facility.
☐	Contact the appropriate agencies and potentially affected neighbors (refer to **FIGURE 3.1-6**).

2.9 ADDITIONAL CHECKLISTS

	2.9 Additional Checklists
☐	**Earthquake**
☐	**Earthquake Preparedness Procedure** **West Coast Region** An earthquake – the result of a sudden release of energy in the Earth's crust – can be due to either a natural phenomenon or human activity. This energy release creates seismic waves reading from 1 – 10 on the Richter scale. Those with a magnitude reading of 3, or lower, are almost unnoticeable. Earthquakes that reach a magnitude of 7 generally cause serious damage over large areas. Earthquakes are recognizable by the shaking and movement of the ground which can also trigger landslides, volcanic activity and tsunamis. Although some areas of the world are more prone to earthquakes than others, earthquakes can occur anywhere and should be a concern to everyone in charge of one of our facilities. They routinely occur throughout North America, with greater activity along the Pacific Rim. Please, expect – and thus, prepare – for them to happen. Earthquake preparedness refers to measures that are designed to help individuals, businesses, and governments to prepare for those significant (Richter 7+) earthquakes. Also, earthquakes rarely occur as single events; almost always there are "after shocks", some of which can be more severe than the initial event. Large earthquakes also cause many serious problems to the surrounding land and its inhabitants. They can result in the loss of basic necessities (such as food, water, shelter, and warmth), disease, and can cause the collapse or destabilization of buildings, bridges and roadways. Worst of all, the loss of human, animal and plant life can have devastating effects for many years. Fires, landslides, volcanic activity, tsunamis and floods are almost always associated with these events. Although earthquakes occur nearly constantly around the world, many people and businesses are caught unprepared and thus suffer the consequences. Thus, there are a number of precautions that businesses can take to minimize the impacts from an earthquake before, during, and after it occurs.

2.9 ADDITIONAL CHECKLISTS, CONTINUED

	2.9 Additional Checklists, Continued
☐	**Things to do before an earthquake** **1. Prepare a plan** With the assistance of your employees and local emergency planners, make an emergency plan for disasters such as fires, floods, and earthquakes; then practice it on a regular basis. Each member of the company on-site, as well as contractors, should know what to do in case of such events. You will be able to better protect your employees / personnel if you prepare them earlier. Panic and confusion can often lead to injuries, fatalities, and even more serious consequences. Eliminate Hazards – now – throughout the facility, by doing the following: • Strap laboratory units, computers, MCC equipment, bookcases, cabinets, lockers, water heaters, and other large object to wall studs using at least 2-inch threaded screws; stack heavy objects on lower shelves; • Install strong latches on cupboards and cabinets; • Minimize glass throughout your facility; • Remove cardboard, wood, and other readily combustible materials whenever practical; Identify a safe place in every room in the facility – under a sturdy table or desk, or against an inside wall – where nothing can fall on you or your personnel. Once identified, mark the locations as shelter-in-place. Then, practice DROP, COVER, AND HOLD ON with all personnel regularly. (Monthly is recommended.) Note: Typically, each person should know to move only a few steps to a nearby safe place. Prepare – too – by expecting aftershocks (some might be even stronger than the initial quake.) If you only have a single event occur, it will be the exception not the rule. Be vigilant; more are coming! **2. Maintain an emergency kit with enough supplies for 72 hours (3 days).** This is considered the amount of time it usually takes for emergency services to react fully to an emergency situation. Of course, emergency survival kits are a must to have in any disaster situation. Since you will never know what will happen after an earthquake, each facility should always have several such emergency kits, with 72 hours of supplies, within easy reach (near the structure's egress, in key vehicle's luggage compartments, in / near break rooms) for those who normally work at the location. Make sure that the emergency kit that you've prepared is easily accessible. If possible, place them in locations where you and your employees will be during the earthquake. Note: Regularly inspect the usability of the food and water to ensure that both are regularly changed. (The food and water in your kit will be of little use if they are already not fit to eat or drink. Instead of saving your life, it might exacerbate the seriousness of your situation.) **3. Know the mains of your utilities** – An earthquake might cause fire from natural gas leaks and/or from electricity. Thus, it is important that you know where the main switches of your utilities are so that you can turn them off when appropriate. Everyone must know how to shut off the gas, electrical (and possibly the water) supply's. Have an appropriate wrench near each of the valve(s). Should you detect an odor of leaking natural gas, take immediate action; or, if you are instructed to do so either by the corporate EOC or local authorities.

2.9 ADDITIONAL CHECKLISTS, CONTINUED

	2.9 Additional Checklists, Continued
☐	**Things to do before an earthquake (continue)** **4. Inspect your business' structure for cracks and fissures** - You must regularly check the condition of your structure to ensure that it can withstand even a moderate earthquake (< Richter 5+.) Be sure to have any cracks on your walls fixed; bookshelves, cabinets, and other fixtures / furniture that could fall and strike someone – or block an egress – should be secured to strong wall studs (use at least 2-inch threaded screws). Heavy or dangerous objects should be stored on lower areas or shelves. Use fluorescent lights instead of halogen, or incandescent ones, to minimize the risk of electrical fires during / following an earthquake. Have several fire extinguishers available and be sure all personnel know how to use them All employees should be trained in basic medical first aid.
☐	**Things to do during an earthquake** **1. Stay away from objects** - The first thing you and your employees should do is to stay away from objects that might fall onto, or strike, you. Stay away from laboratory units, water heaters, book cases, cabinets, and hanging objects, glass bottles and windows, and equipment. Get under a table or desk, hold onto it so that you move with its protective cover, close your eyes and press your face into your elbow to protect from flying glass, debris, and shrapnel. If there is no cover, sit close to a wall, away from all windows, furniture, or anything else that can injure you. Earthquake Preparedness **2. Stay put** - During an earthquake, it is wiser that you stay put, particularly under sturdy tables or in door frames. Drop under a sturdy desk or table, hold on, and protect your eyes by pressing your face against your arm. (If there's no table or desk nearby, sit on the floor against an interior wall away from windows, bookcases, or tall furniture that could fall on you): • Stay indoors until the shaking stops and you're sure it's safe to exit; • Stay away from windows; • Expect the fire alarms and sprinklers to go off during an earthquake; • Do not run around, or even attempt to get out of the structure, unless it is on fire; • Stay in your spot until the shaking is over (remember, there may be a rapid series of aftershocks); • If warranted and possible, shut in critical equipment so that your facility does not become an additional hazard. Note: There are more dangerous things outside that could injure you, such as falling trees, piping and equipment, and vehicles. Watch out for fires. If you are on an upper floor, try to get down stairs to grade. If caught outside, find a clear location; stay away from buildings, trees, power lines, etc., drop to the ground, cover your head and close your eyes; press your face into your elbow to protect from flying glass, debris, and shrapnel. If you are in a vehicle, slow down and drive to a clear place (as described above). Stay in the vehicle until the shaking stops. It can provide an additional measure of protection for you and other occupants. **3. Stay away from the utilities** - One of the most dangerous places in the facility during an earthquake will be close to the utilities – natural gas, electricity, gasoline tanks, etc. Quickly evaluate your personal risk and, if appropriate, move away from those locations to a safer spot.

2.9 ADDITIONAL CHECKLISTS, CONTINUED

	2.9 Additional Checklists, Continued
☐	**Things to do after the earthquake** Once the shaking stops: • Do not light a match or candle, cigarette / cigar / pipe, and use only Class 1, Div 1 appliances; • Activate your emergency action plan (EAP) and get help started your way – contact the EOC; • Check yourself and others for injuries – render first aid to serious injuries; • Protect yourself from further danger by putting on all available appropriate PPE; • Use the telephone (if it is still working) only to report life-threatening emergencies; • Treat the injured; • Inspect the facility, e.g.: o look for and extinguish incipient fires; o stop leaks; o determine pass-ability of roadways for emergency responders; o remove fire hazards; o turn off the product flow lines – double block and bleed disconnects once safe to do so; o secure the facility's perimeter; o shut in all utilities (As appropriate / necessary). • If you can safely remain on-site do so (be sensitive to the need to know for families / personnel); • Report back to EOC on status; • Listen to the radio for instructions; • Inform families. Note: Travel may be ill-advised due to infrastructure damage; think before you allow anyone to leave. If you lose power (and you probably will), do not attempt to restart it without professional assistance and official authorization. If you suspect a gas leak, open the windows and evacuate that structure immediately (in favor of a safer one). You should also call the gas company once you are away from the gas leak. Do not try to call, especially using your mobile phone, near gas leaks. There will sure be aftershocks following an earthquake, so do not let your guard down; even if your business appears to be intact and all of the employees are uninjured. Be sure to check the news for information about the earthquake and other related important updates. **Unless someone is injured, do not telephone 9 1 1 or the local utilities** - (They already know that an earthquake has happened.) Do telephone, from a safe phone – away from any potential gas leaks – your corporate headquarters' emergency liaison with your status at regular intervals as agreed. Also, please, allow your employees to call home. A moment of humanitarian empathy is always appropriate! Take photographs as soon as it is safe to do so. They may become important for incident investigations and well as insurance claims later. Use only those intrinsically safe cameras to take these photographs. **Conclusion** Earthquakes, because of their complete surprise occurrence, are frightening events. We can alleviate and/or mitigate the effects by following these simple procedures each drill and/or occurrence.

SECTION 3
NOTIFICATIONS / TELEPHONE NUMBERS

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3.1 Emergency Information and Notification Procedures

Figure 3.1-1 - Emergency Notification Flow Chart

Figure 3.1-2 - First Report of Incident

Figure 3.1-3 - Leak Accident Report Form

Figure 3.1-4 - Form 4004 - Release Notification Data Sheet

Figure 3.1-5 - Internal Notifications and Telephone Numbers

Figure 3.1-6 - External Notifications and Telephone Numbers

3.1 EMERGENCY INFORMATION AND NOTIFICATION PROCEDURES

The notification sequence for a spill is as follows:

- Facility Manager will identify and control the source of a spill, if safe to do so, then will notify the Qualified Individual.
- The Qualified Individual will conduct notifications as illustrated in the Notification Flow Chart (**FIGURE 3.1-1**).

The priority of actions and response procedures will depend upon actual circumstances and will be determined by the Incident Commander.

This section also contains the following:

- **FIGURE 3.1-2** provides a First Report of Incident. This form is utilized for initial notification.
- **FIGURE 3.1-3** provides a Leak Accident Report Form. This form is utilized for pipeline summary of documentation.
- **FIGURE 3.1-4** provides a Release Notification Data Sheet. This form is utilized for notification summary and documentation.

The Company has attempted to make the following arrangements, as appropriate for the type of hazardous waste handled at the terminal and the potential need for the services of these organizations:

- Familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
- Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
- Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
- Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

FIGURE 3.1-1 - EMERGENCY NOTIFICATION FLOW CHART

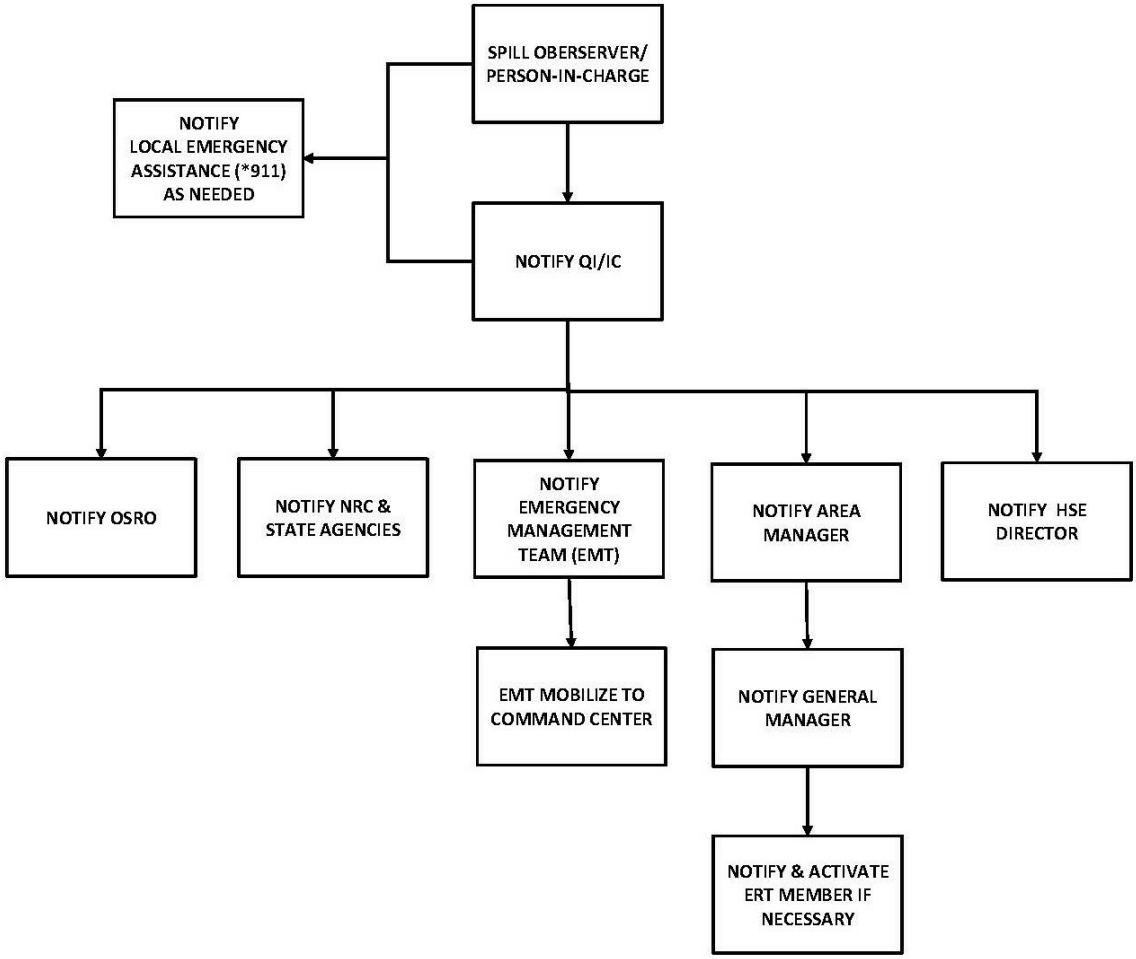

FIGURE 3.1-2 - FIRST REPORT OF INCIDENT

Original to File; Copies To: Terminal Mgr or Ops Mgr & LP HSE Group

I. Location: _____ Time: _____ Date: _____

II. INCIDENT TYPE:

A. Safety

☐ Non-injury ☐ Property/Equipment Damage

☐ Fire ☐ Other ____

☐ Injury ☐ First Aid ☐ Off-site Treatment

☐ Near Miss ☐ Employee ☐ Contractor

B. Environmental

☐ Spill

☐ Air Upset

☐ Discharge Event

☐ Other

For Safety and Environmental Departments Use Only

☐ Recordable Injury ☐ Chemical Exposure ☐ Recordable Illness ☐ Reportable to Agency

☐ PSM/RMP ☐ Other

Signature _____ **Date** _____

III. INJURED EMPLOYEE / CONTRACTOR

Name: _____ Social Security: _____

Occupation: _____ Department / Company: _____

Nature of work related injury: _____

_____

Supervisor's Name: _____

IV. DESCRIPTION OF INCIDENT: (Use additional sheet(s) if necessary)

Date: _____ Time: _____ Location: _____

Tank Capacity: _____

_____

_____

_____

_____

V. IMMEDIATE ACTION(s) TAKEN : (Use additional sheet(s) if necessary)

_____

_____

_____

VI. Incident Investigation Required ☐ Yes ☐ No

VII. Name of person preparing this report: _____

(Please print)

Signature: _____ Date: _____ Time: _____

Supervisor: _____ Date: _____

FIGURE 3.1-3 - LEAK ACCIDENT REPORT FORM

PL SYSTEM: _____
PL SEGMENT: _____
PRODUCTS ☐ CRUDE ☐

DISTRIBUTION:

Original - PIPELINE SAFETY ☐	
NOTE - Copy to the following as needed:	
MGR - ☐	SUP - ☐
ENG - ☐	ROW - ☐
ENV - ☐	☐

REPORT INFORMATION:

RECORDS RETENTION - Permanent
REPORT FREQUENCY - As Required
DUE DATES - Within 5 Days 1 day

PART A - TIME & LOCATION OF LEAK OR ACCIDENT

1. DATE (Month, Day, Year)	2. HOUR ☐ AM ☐ PM	3. LOCATION (State, County, City)

4. PHYSICAL LOCATION (Direction to site, reference highways & towns) _____
SECTION _____ BLOCK or TOWNSHIP _____ SURVEY or RANGE _____

PART B - ORIGIN OF LIQUID OR VAPOR RELEASE

1. PART OF CARRIER'S SYSTEM INVOLVED:
LINE PIPE ☐ PUMPING STATION ☐ TANK FARM ☐ OTHER (Specify) ☐

2. ITEM INVOLVED:
LINE PIPE ☐ GIRTH WELD ☐ LONGITUDINAL WELD ☐ PUMP ☐ OTHER (Specify) ☐
TANK ☐ WELDED FITTING ☐ BOLTED FITTING ☐ VALVE ☐ OTHER (Specify) ☐

PART C - CAUSE OF LEAK ACCIDENT

CORROSION ☐ FAILED WELD ☐ FAILED PIPE ☐ INCORRECT OPERATION BY OPERATING PERSONNEL ☐
OUTSIDE FORCE DAMAGE ☐ MALFUNCTION OF CONTROL OR RELIEF EQUIP. ☐ OTHER (Specify) ☐

PART D - INJURY OR DEATH

NUMBER OF PERSONS INJURED		NUMBER OF PERSONS KILLED	
CARRIER EMPLOYEES	NON-EMPLOYEES	CARRIER EMPLOYEES	NON-EMPLOYEES

PART E - ESTIMATED DAMAGES & COSTS

1. DAMAGE TO OPERATOR	2. LAND DAMAGE	3. CLEAN-UP COST	4. PRODUCT COST

5. ITEMS DAMAGED (Specify):

PART F - COMMODITY SPILLED OR RELEASED

1. NAME OF COMMODITY SPILLED OR RELEASED:	2. CLASSIFICATION: ☐ Crude Oil ☐ Gas Oil ☐ MVL ☐ Non-MVL	3. TOTAL LOSS _____ BBLS RECOVERED (_) BBLS NET LOSS _____ BBLS	4. WAS THERE A FIRE? YES ☐ NO ☐	5. WAS THERE AN EXPLOSION? YES ☐ NO ☐

PART G - OCCURRED IN LINE PIPE (Answer sections G, H, or I ONLY if it specifically applies to the leak or accident)

1. NOMINAL DIAMETER _____ in.	2. WALL THICKNESS _____ in.	3. SPECIFICATION & GRADE:	4. YEAR OF INSTALLATION Before 1970 (Specify Yr.): ☐ After 1970 (Specify Yr.) ☐	5. TYPE OF JOINT: Weld ☐ Flanged ☐ Threaded ☐ Coupled ☐ Other ☐ _____

6. CONFIGURATION AT POINT OF ACCIDENT:	7. PIPE WAS:	8. PIPE WAS:
Straight ☐ Sag ☐ Overbend ☐ Sidebend ☐	Coated ☐ Not Coated ☐	Above Ground ☐ Below Ground ☐

FIGURE 3.1-3 - LEAK ACCIDENT REPORT FORM, CONTINUED

PART G - OCCURRED IN LINE PIPE (Answer sections G, H, or I ONLY if it specifically applies to the leak or accident), Continued

9. COVER (if below ground) in.	10. MAXIMUM OPERATING PRESSURE: psig	11. PRESSURE AT TIME & LOCATION OF ACCIDENT psig	12. SYSTEM PRESSURE TEST YES ☐ NO ☐

13. TEST MEDIUM USED; (If item 12, is Yes) Water ☐ Petroleum ☐ Air ☐	14. DURATION OF TEST hrs.	15. MAXIMUM TEST PRESSURE psig	16. DATE OF LATEST TEST

PART H - CAUSED BY CORROSION

1. LOCATION OF CORROSION EXTERNAL ☐ INTERNAL ☐	2. FACILITY COATED: YES ☐ NO ☐	3. FACILITY UNDER CATHODIC PROTECTION? YES ☐ NO ☐	4. TYPE OF CORROSION: GALVANIC ☐ OTHER ☐

PART I - CAUSED BY OUTSIDE FORCES

1. ☐ DAMAGE BY OPERATOR ☐ DAMAGE BY OPERATOR'S CONTRACTOR ☐ DAMAGE BY OTHERS (Name) _____
☐ DAMAGE BY NATURAL FORCES ☐ Washout ☐ Flood ☐ Subsidence ☐ Landslide ☐ Frostheave
☐ EARTHQUAKE ☐ OTHER (Specify) _____

2. DID EXCAVATOR CALL? YES ☐ NO ☐	3. WAS PIPELINE TEMPORARILY MARKED FOR EXCAVATOR? YES ☐ NO ☐	4. DISTANCE TO NEAREST LINE MARKER: feet

1. DETAILS OF INCIDENT: (Complete description of Cause, Response, Repairs, Affected Area & Land Damages.)
Use back for any additional information

PERSON COMPLETING THIS REPORT (Name):	DATE:

NRC # = 800-424-8802

INITIAL NOTIFICATION OF NRC MUST NOT BE DELAYED PENDING COLLECTION OF ALL INFORMATION.

FIGURE 3.1-4 - FORM 4004 - RELEASE NOTIFICATION DATA SHEET

Incident Date:		Incident Time:	
Reporters Name:		Reporter's Company:	
		Reporter's Position:	
Reporters Address:		City / State:	
Reporters Phone:		Zip:	
Name of Person who notified the reporter of the incident:			
It is not necessary to wait for all information before calling NRC. National Response Center 1-800-424-8802			
Were Materials Discharged (please circle one) Yes No			
Calling for Responsible Party (please circle one) Yes No			
Incident Description			
Facility Name:		Facility Address or driving directions:	
Organization Type:		Facility Latitude/Longitude:	
Responsible Party: (Name of company)		Owner's Address:	2330 Loop 1604 West San Antonio, Texas 78248
Facility Contact Name & Title:		Facility Contact Phone No's	Office
			Cell
			Other
Were Materials Discharged? Y____ N ____		Confidential? Y____ N ____	
Meeting Federal Obligations to Report? Y ___ N __		Date Called: _____	

Incident Description			
Location of Spill:	Source or cause of discharge:		
Material Released:	CHRIS Code:		
Total Quantity Released:	Was surface water impacted by the spill? (yes or no)		
Total Quantity Recovered:	Total quantity into the water:		
Net Loss:	Tank Number (above/below) involved or pipe diameter:		
Container Type (AST/UST):	Tank Capacity (gallons):		
Facility Oil Storage Capacity	Units of Measure:		
Nearest City:	County:	State:	ZIP
Distance from City (in miles):	Direction from City:	Section:	
Township:	Range:	Borough:	
Weather conditions at time of incident (wind, rain, snow, temperature, etc.):			
Was there a fire or explosion involved?	Number of Injuries:	Extent of Injuries if known:	
Number of Deaths:	Numbers Evacuated (if any):		
Was there any damage:	Yes / No / Unknown (please circle one)		
	Estimate Dollars of Damage:	Description:	
More Information about Medium:			
Additional Information not recorded elsewhere in the report:			
Response Actions			
Actions taken to correct, control, or mitigate the incident:			

Notifications

Group or Agency	Persons Notified	Date & Time Notified	Notify By:	Incident No.
NRC				
State Agency				
LEPC - County				
HSE Group:				
Other:				

FIGURE 3.1-5 - INTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS

Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)

Onsite Response Personnel

* 24-hour number

INCIDENT MANAGEMENT TEAM	
Qualified Individual/Alternate Qualified Individual(s)	
Ryan Groesbeck Terminal Manager - Portland Qualified Individual Responsibility During Response Action: Incident Commander Response Time: 1 (hours)	360-949-0913* (Mobile)
Jeff Hibner Terminal Manager - Vancouver Alternate Qualified Individual (Site Specific): QI/AQI, Operations Section Chief, Situation Unit Leader Response Time: 1 (hours) QI/IC Training	503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)
Aaron Flett Area Manager - PNW Alternate Qualified Individual Response Time: 1 (hours)	503-286-6732 (Office) 360-567-8871* (Mobile)
Response Training: Training records are available through NuTeach or Appendix A Prevention Training date/hrs: Training records are available through NuTeach or Appendix A Responsibility During Response Action:	
Incident Management Team (IMT)	
Ryan Groesbeck Terminal Manager - Portland Qualified Individual Responsibility During Response Action: Incident Commander Response Time: 1 (hours)	360-949-0913* (Mobile)
Kyle Bell Operations Supervisor Responsibility During Response Action: Operations Section Chief	971-275-2420* (Mobile)
Dale Combs Terminal Scheduler - Portland Responsibility During Response Action: Logistics Section Chief (Site Specific): Response Time: 2 hr for Vancouver and 6 hrs for Tacoma	503-286-6732 Ext. 7113 (Office) 360-904-0000* (Mobile)
Leah VanEaton Operations Clerk - Portland Responsibility During Response Action: Finance Section Chief	503-286-6732 Ext. 7111 (Office) 971-322-6019* (Mobile)
Brandon Jeffers Sr Terminal Operator Response Time: 1 (hours)	
David Marshall Terminal Operator II Response Time: 1 (hours)	
Jason Ramsdell Terminal Operator Trainee Response Time: 1 (hours)	360-772-0315* (Mobile)

Onsite Response Personnel, Continued

* 24-hour number

INCIDENT MANAGEMENT TEAM, CONTINUED	
Incident Management Team (IMT), Continued	
Jeffery Ames Terminal Operator Trainee Response Time: 1 (hours)	360-931-6818* (Mobile)
Matt Hartley Terminal Operator II Response Time: 1 (hours)	
Mike Wise Sr Terminal Operator Response Time: 1 (hours)	503-286-6732 (Office)
Michael Ward Terminal Operator II Response Time: 1 (hours)	
Rex Gilberston Maintenance Technician Trainee Response Time: 1 (hours)	
Robert Bay Sr Terminal Operator Response Time: 1 (hours)	
Tom Hartley Sr Terminal Operator Response Time: 1 (hours)	

Refer to **APPENDIX A**, **FIGURE A.2-3** for personnel training records.

Offsite Response Personnel

* 24-hour number

REGIONAL RESPONSE TEAM (RRT)	
Regional Response Team (RRT)	
Aaron Flett Area Manager - PNW Alternate Qualified Individual Response Time: 1 (hours)	503-286-6732 (Office) 360-567-8871* (Mobile)
Terry Schulte Director Safety & Operational Excellence	707-567-6885* (Mobile)
Terry Schulte Director Corporate VPP Responsibility During Response Action: Safety Officer Response Time: 6 (hours)	707-567-6885* (Mobile)
Ana Bertolucci Sr. Mgr Regional HR & PA	916-296-3761* (Mobile)
Rena Swafford Human Resource Advisor	916-207-5246* (Mobile)
Buddy Stubblefield Manager, HSE – West Region (Site Specific): Liaison Officer Response Time: 10 (hours)	916-753-4756* (Mobile)
Don (JR) Marti, Jr. Supervisor - HSE Responsibility During Response Action: Safety Officer	360-772-1918* (Mobile)
Joe Hufman Terminal Manager - Wilmington Responsibility During Response Action: QI/AQI, Planning Section Chief	310-427-9785* (Mobile) 310-507-1127 (Office)
Jennifer Polk HSE Manager - West Region Responsibility During Response Action: Planning Section Chief, Environmental Unit Support	512-913-7493* (Mobile)
Jeff Hibner Terminal Manager - Vancouver Alternate Qualified Individual (Site Specific): QI/AQI, Operations Section Chief, Situation Unit Leader Response Time: 1 (hours) QI/IC Training	503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)
Leah VanEaton Operations Clerk - Portland Responsibility During Response Action: Finance Section Chief	503-286-6732 Ext. 7111 (Office) 971-322-6019* (Mobile)
Leticia Holbert Superintendent Inventory & Traffic - Selby Responsibility During Response Action: Finance Section Chief	510-375-3495* (Mobile) 510-787-1076 Ext. 3504 (Office)
Jennifer Costello Vancouver Supervisor Inventory & Traffic Finance Section Chief	360-448-3888* (Mobile) 360-694-8591 (Office)
Stephan Rosen Sr. HSE Manager - West Region (Site Specific): Environmental Unit Leader Response Time: 10 (hours)	925-212-2894* (Mobile) 510-787-1076 (Selby Terminal) (Office)
Kirubhakaran Vyravan (Site Specific): Resource Unit Leader Response Time: 10 (hours)	510-806-5083* (Mobile)

* 24-hour number

JOINT REGIONAL RECOVERY TEAM (JRRT)	
Joint Regional Recovery Team (JRRT)	
Shawnna Poor Sr. Manager Security & Emergency Response (Site Specific): Situation Unit Leader Response Time: 12 (hours)	210-918-2765 (Office) 210-854-4202* (Mobile)
Larry Thompson Sr Mgr Corporate Safety (Site Specific): Safety Officer	210-918-2218 (Office) 918-402-9990* (Mobile)
Alonso Rodriguez Sr Manager Pipeline Safety Responsibility During Response Action: Liaison Officer	806-336-0712* (Mobile)
Tricia Dietrich Petty Exec. Director of Health & Safety (Site Specific): Logistics and Planning Section Chief Response Time: 12 (hours)	210-918-2126 (Office) 210-382-3813* (Mobile)
Tresmon Smith Sr Manager Surveying Responsibility During Response Action: Air Ops Branch Director Response Time: 12 (hours)	210-918-2273 (Office) 210-775-8892* (Mobile)

* 24-hour number

CORPORATE EMERGENCY OPERATIONS CENTER (EOC)	
Corporate Emergency Operations Center (EOC)	
Kyle Oppliger VP Terminal Operations Responsibility During Response Action: Corporate EOC - EOC Manager, Terminal Operations Support	210-918-2074 (Office) 409-200-0609* (Mobile)
Gary Koegeboehn VP Pipeline Operations Responsibility During Response Action: Corporate EOC - EOC Manager, Pipeline Operations Support	210-918-2385 (Office) 316-655-8056* (Mobile) 316-655-8056 (Home)
John Koenig VP Engineering Responsibility During Response Action: Corporate EOC - Engineering	210-918-2414 (Office) 210-232-8708* (Mobile)
Heath Reininger Executive Director Real Estate & ROW Responsibility During Response Action: Corporate EOC - Right Of Way (ROW)	210-918-2472 (Office) 830-237-8761* (Mobile)
Chris Cho Director Corp Communications Responsibility During Response Action: Corporate EOC - Corporate Communications Response Time: 10 (hours)	210-918-3953 (Office) 210-831-8382* (Mobile)
Chris Rulon VP Assistant General Counsel Responsibility During Response Action: Corporate EOC - Legal Advisor	210-918-2048 (Office) 210-394-0158* (Mobile)
Mike Dillinger VP Environmental, Sustainability & Permitting Responsibility During Response Action: Corporate EOC – Regulatory Affairs Advisor	210-918-2091 (Office) 703-232-3752* (Mobile)
Shay Bluntzer Executive Director Public Affairs Responsibility During Response Action: Corporate EOC - Public Affairs Advisor	210-918-2234 (Office) 210-633-6294* (Mobile)
Walter Thompson Executive Director Enterprise Architecture/Cyber Security Responsibility During Response Action: Corporate EOC - Cybersecurity Officer	210-918-4666 (Office) 210-289-0453* (Mobile)
Ron Walton VP, Risk Management Risk Management	210-918-2258 (Office) 210-323-9848* (Mobile) 210-497-0578

Note: Refer to **APPENDIX A** for training dates.

Emergency Response Contractors

* 24-hour number

EMERGENCY RESPONSE CONTRACTORS						
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)	RESPONSIBILITY DURING RESPONSE ACTION	RESPONSE TRAINING TYPE[1]		
				1	2	3
Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc Portland , OR	503-220-2040 503-295-3660 (Fax) info@pdxmex.com (Email)	1	CRC provides staffing for all emergency response if none is available at the facility at the time. OSRO for Vancouver, WA and Portland, OR terminals			

EMERGENCY RESPONSE TRAINING TYPE[1]	
TYPE	DESCRIPTION
1	29 CFR 1910.120 HAZWOPER
2	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI Components
3	Qualified Individual/Incident Command Training

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS

Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)

* 24-hour number

EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS		TIME CONTACTED
Initial Notifications		
National Response Center	800-424-8802*	
Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	503-378-6377 503-378-3387 (800) OILS-911 (In-State)	
Federal Agencies (as needed)		
EPA Region X	206-553-1263 206-553-4973 (On Duty Officer) 800-424-4372 (Spill)	
Occupational Safety and Health Administration (OSHA) Washington DC	1-800-321-OSHA(6742)* Emergency	
U.S. Coast Guard - Thirteenth District, Portland, OR	503-240-9365 (Office)	
U.S. Coast Guard - Marine Safety Unit, Portland, OR	503-240-9310 503-240-9301* (watchstander) 503-240-9379 (safety office) Sector Columbia River (503) 561-6211	
NOAA Law Enforcement & Mammal Protection	206-526-6133	
NOAA National Marine Fisheries Service	206-526-6317 (Press 1#)	
U.S. Fish and Wildlife Service (USFWS), Northeast Regional Office, Hadley, MA	413-253-8200 413-253-8456 (Fax)	
U.S. Fish and Wildlife Service, Region I	503-231-6223	
State Agencies (as needed)		
Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	503-378-6377 503-378-3387 (800) OILS-911 (In-State)	
Oregon Department of Environmental, Air Quality Div.	503-229-5359	
Oregon Department of Fish & Wildlife Columbia River Management	503-947-6000	
Oregon Department of Fish & Wildlife Headquarters	503-947-6000	
Oregon Department of Transportation (Highways Division)	503-986-4000	
Oregon Emergency Management	503-378-2911	
Oregon State Fire Marshall	503-378-3473	
Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	503-378-6377 503-378-3387 800-452-0311 (In-state) 800-OILS-911 (In-state)	
Oregon State Police, Portland, OR	503-578-3387 503-731-3030	
Washington Department of Ecology (DOE), Southwest Region	360-407-6300* 360-690-7171 360-407-6900 (Headquarters) *Field Office is the -7171 number	
Washington Department of Fish & Wildlife Oil Spill Team	360-534-8233 (24/7) (Pager)	
Washington Emergency Management Division	800-258-5990	
Local Agencies (as needed)		
City of Portland - Environmental Services	503-823-7180* 503-323-3398 503-823-8805	
Multnomah Co. Emergency Management (LEPC)	503-618-2363	
Multnomah Co. Environmental Health	503-988-3400	
Multnomah Co. Transportation Division	503-988-5050	

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED

* 24-hour number

EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED		TIME CONTACTED
Local Agencies (as needed), Continued		
Port of Portland General Office (not for spill)	503-944-7000	
Port of Portland Marine Security	503-240-2230	
Portland Water Bureau Emergency (water pipe burst only)	503-823-4874	
St. Helens City Public Works	503-397-3532	
Fire Departments (as needed)		
Portland Fire Department	911* 503-823-3700	
Emergency Medical Services (as needed)		
American Medical Response	503-282-2232	
Hospitals (as needed)		
Emanuel Hospital & Medical Center	503-413-2200	
Good Samaritan Hospital & Medical Center	503-413-7711 503-413-7241	
Law Enforcement (as needed)		
Multnomah Co. Sheriff Department	503-988-6788 (Office) 503-288-6788 (River Patrol in Progress)	
Portland Police Bureau	503-823-3333	
Neighboring Facilities (as needed)		
Boise Cascade Paper Division	503-397-2900	
Dyno Nobel Chemical - Environmental Department	503-397-2225	
Olympic Pipeline Control Center	425-235-7726 888-271-8880 (emergency)	
Rainier City	503-556-7301	
Kinder Morgan	732-541-5161	
Kinder Morgan Co.	732-969-5700	
Radio Stations (as needed)		
KEX Radio	503-225-1190	
Television Stations (as needed)		
KATU Channel 2	503-231-4222	
KGW Channel 8	503-226-5000 503-226-5111	
KOIN Channel 6	503-464-0600	
Utilities (as needed)		
Portland General Electric	503-464-7777	
Weather (as needed)		

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED

* 24-hour number

EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED		TIME CONTACTED
Weather (as needed), Continued		
Weather Forecast - Portland	503-261-9246	
Wildlife Rehabilitation (as needed)		
Clean Rivers Wildlife Rescue (Oregon)	503-220-2040*	
Tri-State Bird Research and Rescue	302-737-9543 (Office) 302-737-9562 (Fax)	

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED

* 24-hour number

FORMER BP TERMINAL (NOW SEAPORT)	TIME CONTACTED

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED

* 24-hour number

FOSS MARINE	TIME CONTACTED

FIGURE 3.1-6 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED

* 24-hour number

KINDER MORGAN	TIME CONTACTED

Oil Spill Removal Organizations (OSROs)

* 24-hour number

OIL SPILL REMOVAL ORGANIZATIONS (OSROS)	
USCG CLASSIFIED OSRO	
Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc (Site Specific): CRC provides staffing for all emergency response if none is available at the facility at the time. OSRO for Vancouver, WA and Portland, OR terminals Response Time: 1 (hours) Portland , OR	503-220-2040 503-295-3660 (Fax) info@pdxmex.com (Email)

SECTION 4
RESPONSE TEAM ORGANIZATION

Last Revised: December 15, 2020

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4.1 Description

4.2 Activation Procedures

4.3 Team Member Response Times

4.4 Incident Command System / Unified Command

4.5 Qualified Individual (QI)

Figure 4.5-1 - Emergency Response Activation Procedure

Figure 4.5-2 - Emergency Response Organization Chart

4.6 Incident Command System (ICS) Job Descriptions and Guidelines

4.1 DESCRIPTION

The Company has developed its emergency response organization around the Incident Command System (ICS), which provides the structure for effective management of response resources. The Incident Management Team (IMT) has been created and organized to plan for and manage all hazard type emergencies.

The Company utilizes an Incident Management Team (IMT) consisting of local personnel and a Regional Response Team (RRT) along with OSRO contractors to staff Emergency Management Team (ICS positions) during emergencies that exceed the capabilities of the on-site Emergency Management Team. The response teams provide enhanced assimilation with the Unified Command System during significant emergencies.

Job descriptions for each IMT/RRT member are provided in **SECTION 4.6**. The IMT/RRT will train by participating in exercises as noted in **APPENDIX A**. Refer to **FIGURE 3.1-1** for notification procedures.

The Company follows the most current version of the US Coast Guard Incident Management Handbook (IMH) for guidance on Incident Management Team roles and responsibilities. This reference job aid is designed to assist response personnel in the use of the National Incident Management System (NIMS) Incident Command System (ICS) during a response.

4.2 ACTIVATION PROCEDURES

Following initial notification, the Incident Commander (IC) may be able to respond without additional assistance. If the needs for response exceed the capacity of the site's resources, the IC will activate the Regional Response Team (RRT) and/or contracted OSRO Incident Management Team.

The Emergency Response Activation Procedure is provided in **FIGURE 4.5-1**.

n the case of a larger emergency, the RRT would be activated by the QI requesting additional resources through the Incident Commander (IC). The Incident Commander would activate the RRT to the incident depending on the size and nature of the event. The IC may also request activation of the NuStar Crisis Management Plan (NuCMP) through the VP Terminal Operations. If the situation requires more resources, additional personnel or management support will be requested from the Joint Regional Recovery Team (JRRT).

The RRT/JRRT members will report through the Incident Commander/Unified Command and not through their normal reporting structure until relieved of their response duties and return to their normal responsibilities. Once onsite, the RRT/JRRT members will be briefed on the situation (including the Incident Action Plan and Site Safety Plan) and will formally and verbally assume their position in the Incident Command (IC)/Unified Command (UC). The individuals that were filling these positions will be relieved of duty or will assume a new position within the IC/UC. This level of communication will occur at each operational period and shift change.

4.3 TEAM MEMBER RESPONSE TIMES

See **FIGURE 3.1-5** for each team member's response time "EPA Facilities only".

4.4 INCIDENT COMMAND SYSTEM / UNIFIED COMMAND

The Incident Command System (ICS) will be used by the Company EMT for spill response. The IMT/RRT organization chart is provided in **FIGURE 4.5-2**. The organization can be expanded or contracted as necessary. If an OSRO or other contractor is used to staff ICS positions for the Incident Management Team, the commitment will be specified in writing.

The Unified Command System (UCS) is the accepted method of organizing key spill management entities within the Incident Command System. The primary entities include:

- Federal On-Scene Coordinator (FOSC)
- State On-Scene Coordinator (SOSC)
- Local On-Scene Coordinator (LOSC)
- Company Incident Commander

These three people share decision-making authority within the Incident Command System and are each responsible for coordinating other federal, state, and company personnel to form an effective integrated Emergency Management Team. Refer to **SECTION 4.6** for detailed checklists of the ICS Position Specific roles and responsibilities as well as organizational interfaces with external parties.

4.5 QUALIFIED INDIVIDUAL (QI)

The Qualified Individual (QI) is an English-speaking representative, available on a 24-hour basis, and trained in the responsibilities outlined in this section. The QI has the following responsibilities and authorities as required by the Oil Pollution Act of 1990 (OPA 90):

- The Qualified Individual (QI) is granted full authority to implement the Facility Response Plan (FRP).
- Activate internal alarm and hazard communication systems to notify all appropriate personnel.
- Notify all response personnel and contractors (as needed).
- Identify the character, exact source, amount, and extent of the release and other necessary items needed for notifications.
- Notify and provide information to appropriate federal, state, and local authorities.
- Assess the interaction of the spilled substance with water and/or other substances stored at the facility and notify on-scene response personnel of assessment.
- Assess possible hazards to human health and the environment.
- Assess and implement prompt removal actions.
- Coordinate rescue and response actions.
- Access Company funds to initiate cleanup activities.
- Direct cleanup activities until properly relieved of the responsibility or the incident is terminated.

For further information on Qualified Individual's training, refer to **APPENDIX A**. Phone numbers for Qualified Individuals are provided in **FIGURE 1-2** and **FIGURE 3.1-5**.

FIGURE 4.5-1 - EMERGENCY RESPONSE ACTIVATION PROCEDURE

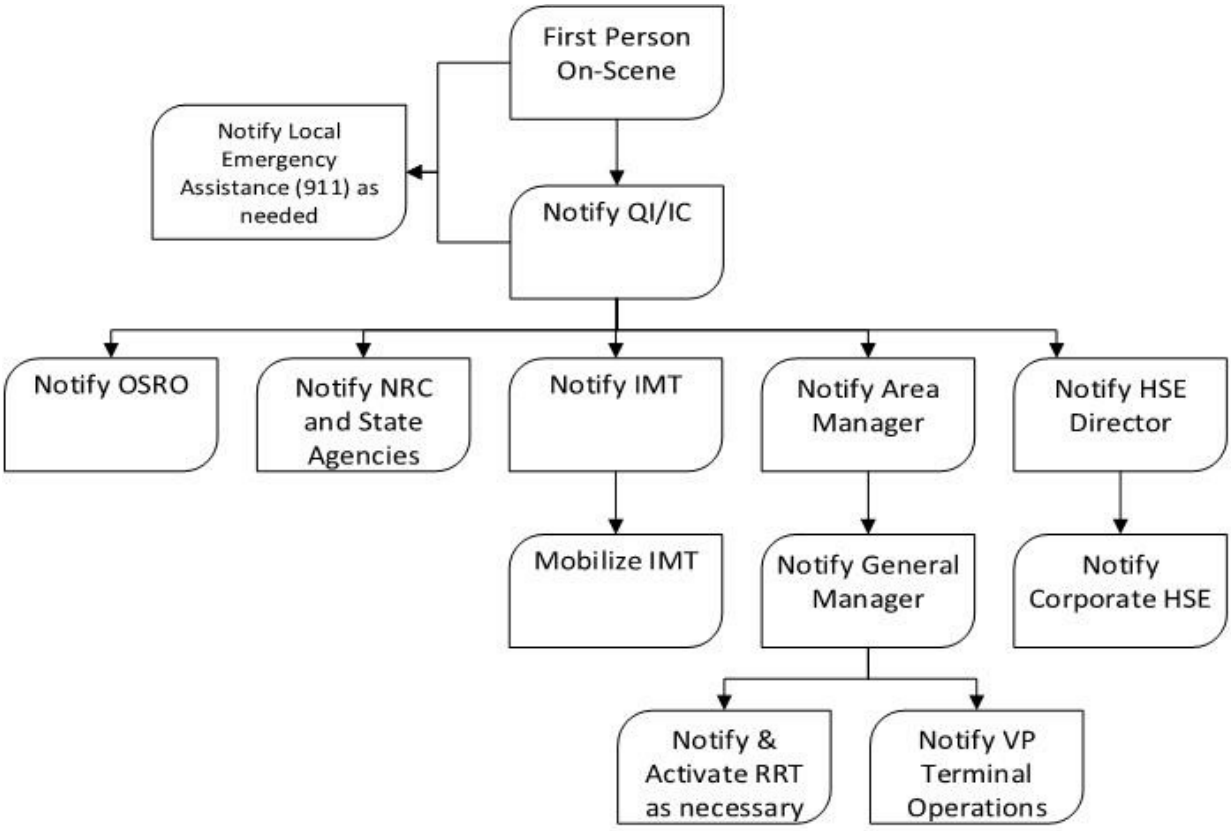


FIGURE 4.5-2 - EMERGENCY RESPONSE ORGANIZATION CHART

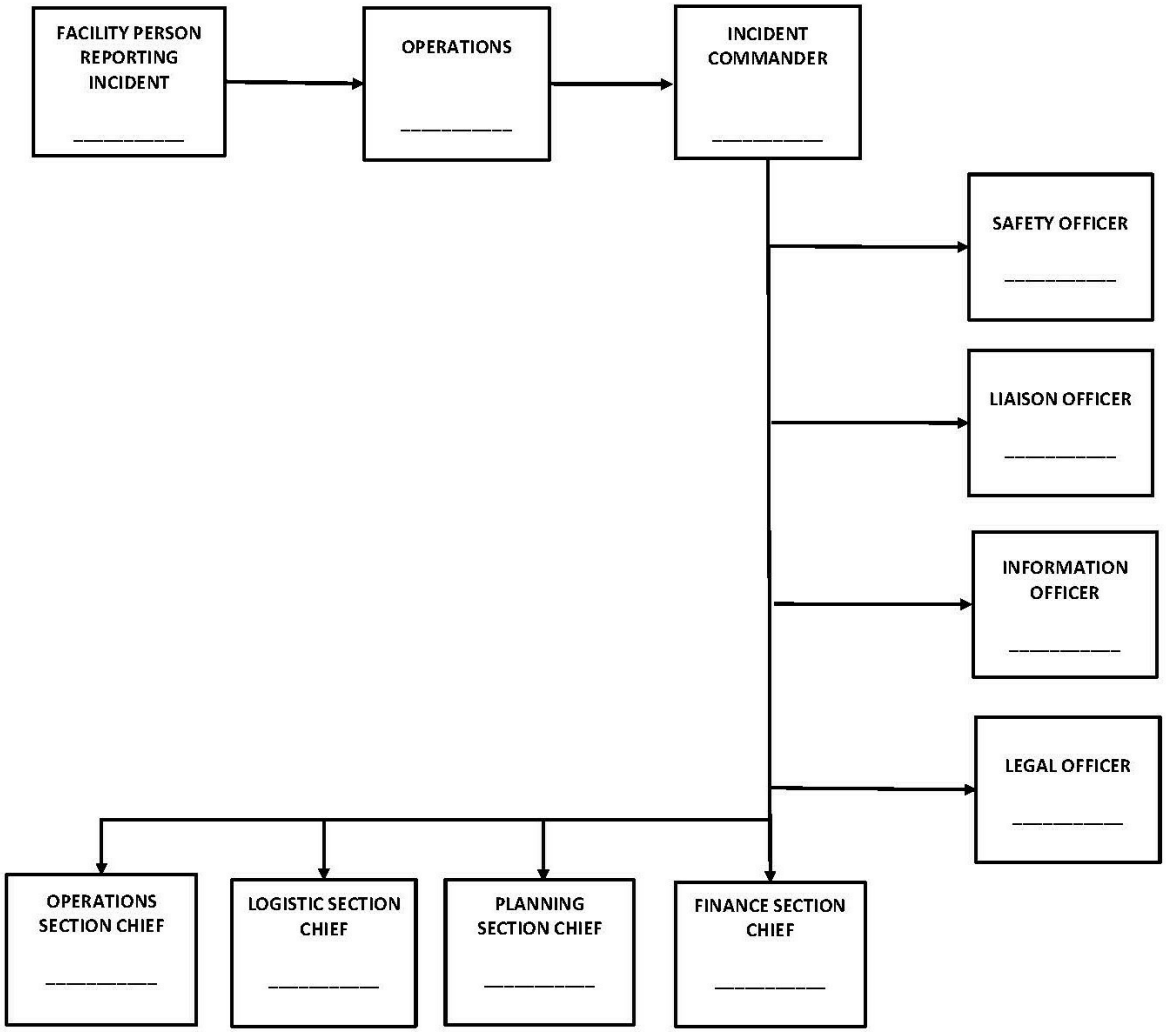
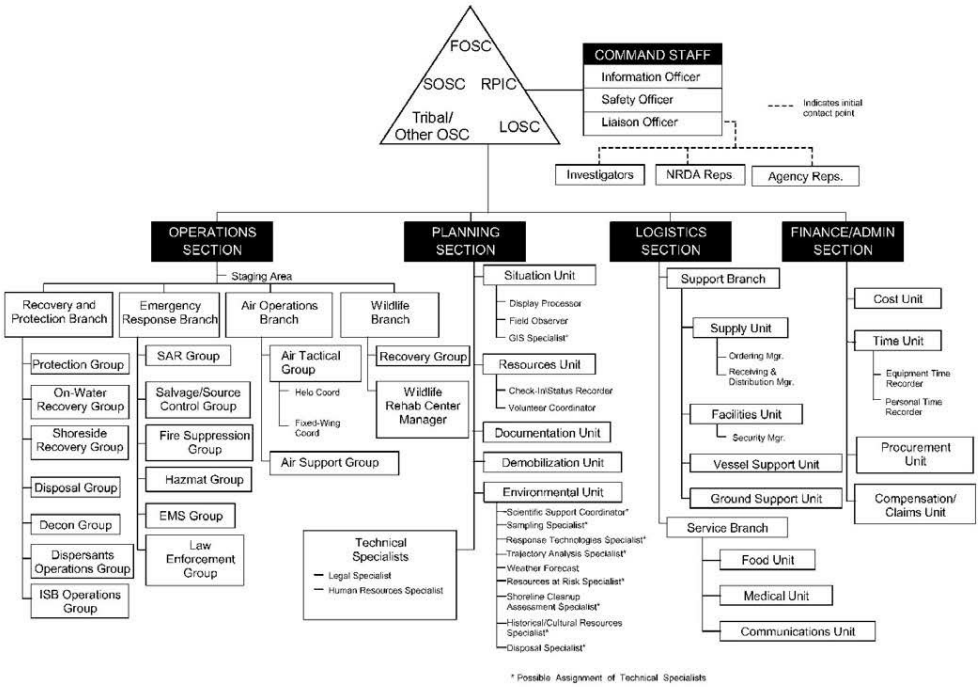


FIGURE 4.5-2 - EMERGENCY RESPONSE ORGANIZATION CHART, CONTINUED



4.6 INCIDENT COMMAND SYSTEM (ICS) JOB DESCRIPTIONS AND GUIDELINES

The following job descriptions and guidelines are intended to be used as a tool to assist IMT/RRT members in their particular positions within the Incident Command System (ICS):

- Incident Commander
- Safety Officer
- Operations Chief
- Planning Chief
- Logistics Chief
- Finance Chief
- Information Officer
- Liaison Officer

INCIDENT COMMANDER

The Incident Commander (IC) manages all activities related to an emergency response and acts as Qualified Individual (QI). As such, the Incident Commander needs to be familiar with the contents of the Facility Response Plan (FRP), Oil Spill Response Plan (OSRP), Emergency Response Action Plan (ERAP), and the Spill Prevention Control and Countermeasure Plan (SPCC). The Incident Commander (IC) must also be familiar with the operation of the Incident Command System (ICS) and the Unified Command Structure (UCS).

The primary goal of this system is to establish and maintain control of the emergency response. If the emergency involves a multi-jurisdictional response (Federal and State), the Unified Command Structure (UCS) should be established. **Realize that the Federal On-Scene Coordinator (FOSC) does have the authority to override the Incident Commander and assume control of the response**. Every effort should be made to establish a collaborative relationship to manage the incident site with the appropriate responding agencies.

As soon as possible but not later than one (1) week following an incident, the Incident Commander shall conduct a critique of the response and follow-up of action items. Participants shall include Operations Control personnel, Company supervisors, and employees and outside agencies involved in the response. An Incident Debriefing Form is provided in **SECTION 8.3**.

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Establish Incident Command/Unified Command Post.
- ☐ Activate necessary section(s) of the Incident Command System (ICS) to deal with the emergency. Fill out the appropriate section(s) of the Incident Command organization chart and post it at the Incident Command Center.
- ☐ Develop goals and objectives for response.
- ☐ Work with Safety Officer and Planning Section Chief to develop a Site Safety Plan (SSP).
- ☐ Approve, authorize, and distribute Incident Action Plan (IAP) and SSP.
- ☐ Conduct planning meetings and briefings with the section chiefs.
- ☐ As Qualified Individual coordinate actions with Federal On-Scene Coordinator (FOSC) and State On-Scene Coordinator (SOSC).
- ☐ In a multi-jurisdictional response, ensure that all agencies are represented in the ICS.
- ☐ Coordinate and approve media information releases with the FOSC, SOSC, and Public Information Officer (PIO).
- ☐ Keep management informed of developments and progress.
- ☐ Authorize demobilization of resources as they are no longer needed.
- ☐ Complete Standard Incident Debriefing Form (**FIGURE 8.3-1**).

SAFETY OFFICER

The Safety Officer is responsible for assessing and monitoring hazardous and unsafe situations at the emergency response site(s). The Safety Officer must develop measures that assure the safety of the public and response personnel. This involves maintaining an awareness of active and developing situations, ensuring the preparation and implementation of the Site Safety Plan (SSP) and assessing safety issues related to the Incident Action Plans (IAP).

Responsibilities:

- ☐ Maintain Activity Log. .
- ☐ Obtain briefing from Incident Commander (IC).
- ☐ Develop, implement, and disseminate SSP with IC and section chiefs.
- ☐ Participate in planning meetings and briefings.
- ☐ Establish safety staff if necessary.
- ☐ Identify emergency contact numbers. Fill out emergency contact chart and post in the Incident Command Center.
- ☐ Conduct safety briefings with all emergency responders.
- ☐ Investigate accidents that have occurred during emergency response.
- ☐ Ensure proper hazard zones are established.
- ☐ Ensure all emergency responders have appropriate level of training.
- ☐ Ensure proper Personal Protective Equipment (PPE) is available and used.
- ☐ Advise Security/Medical Group Leader concerning PPE requirements.
- ☐ Ensure emergency alarms/warning systems are in place as needed.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

OPERATIONS CHIEF

The Operations Chief is responsible for the management of all operations applicable to the field response and site restoration activities. Operations directs field activities based on the Incident Action Plan (IAP) and Site Safety Plan (SSP).

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from Incident Commander (IC).
- ☐ Participate in Incident Command planning meetings and briefings.
- ☐ Conduct planning meetings and briefings for Operations Section.
- ☐ Develop operations portion of IAP.
- ☐ Supervise the implementation of the IAP.
- ☐ Make or approve expedient changes to the IAP.
- ☐ Request resources needed to implement IAP.
- ☐ Approve list of resources to be released.
- ☐ Ensure safe tactical operations.
- ☐ Establish a staging area for personnel and equipment.
- ☐ Confirm first responder actions.
- ☐ Confirm the completion of rescue/evacuation and administering of first aid.
- ☐ Confirm site perimeters have been established.
- ☐ Coordinate activities of public safety responders, contractors, and mutual assistance organizations.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

PLANNING CHIEF

The Planning Chief is responsible for collecting, evaluating, and disseminating information related to the current and future events of the response effort. The Planning Chief must understand the current situation; predict the future course of events; predict future needs; develop response and cleanup strategies; and review the incident once complete.

The Planning Chief must coordinate activities with the Incident Commander (IC) and other Chiefs to ensure that current and future needs are appropriately handled.

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from the IC.
- ☐ Establish and maintain communication with IC and other Section Chiefs.
- ☐ Advise IC on any significant changes of incident status.
- ☐ Conduct planning meetings and briefings for Planning section.
- ☐ Coordinate and provide input to the preparation of the Incident Action Plan (IAP).
- ☐ Participate in Incident Command planning meetings and briefings.
- ☐ In a multi-jurisdictional response, ensure that all agencies are represented in the Planning Section.
- ☐ Coordinate future needs for the emergency response.
- ☐ Determine response personnel needs.
- ☐ Determine personnel needs and request personnel for Planning section.
- ☐ Assign technical specialists (archaeologists, historians, biologists, etc.) where needed.
- ☐ Collect and analyze information on the situation.
- ☐ Assemble information on alternative response and cleanup strategies.
- ☐ Ensure situation status unit has a current organization chart of the Incident Command Organization.
- ☐ Provide periodic spill movement/migration prediction.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

LOGISTICS CHIEF

The Logistics Chief is responsible for procuring facilities, services, and material in support of the emergency response effort.

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from the Incident Commander (IC).
- ☐ Participate in Incident Command planning meetings and briefings.
- ☐ Conduct planning meetings and briefings for Logistics section.
- ☐ Participate in the preparation of the Incident Action Plan (IAP).
- ☐ Identify service and support requirements for planned operations.
- ☐ Identify sources of supply for identified and potential needs.
- ☐ Advise IC on current service and support requirements.
- ☐ Procure needed materials, equipment and services from sources by means consistent with the timing requirements of the IAP and Operations.
- ☐ Ensure all purchases are documented.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

FINANCE CHIEF

The Finance Chief is responsible for accounting, legal, right-of-way and risk management functions that support the emergency response effort. In this role, the primary responsibility is supporting the Command Staff and Logistics Section matters pertaining to expenses during and following the emergency response.

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from Incident Commander (IC).
- ☐ Participate in Incident Command planning meetings and briefings.
- ☐ Conduct planning meetings and briefings for Finance section.
- ☐ Participate in preparation of the Incident Action Plan (IAP).
- ☐ Participate in planning meetings.
- ☐ Participate in Unified Command System (UCS) as incident warrants.
- ☐ Request assistance of corporate accounting, legal, right-of-way or risk management as needed.
- ☐ Assist with contracting administration.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

INFORMATION OFFICER

The Information Officer (IO) provides critical contact between the media/public and the emergency responders. The IO is responsible for developing and releasing information about the incident to the news media, incident personnel, appropriate agencies and public. When the response is multi-jurisdictional (involves the federal and state agencies), the IO must coordinate gathering and releasing information with these agencies.

The IO needs to communicate that the Company is conducting an effective response to the emergency. The IO is responsible for communicating the needs and concerns of the public to the Incident Commander (IC).

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from IC.
- ☐ Participate in all planning meetings and briefings.
- ☐ Obtain outside information that may be useful to incident planning.
- ☐ Develop goals and objectives regarding public information.
- ☐ Arrange for necessary workspace, materials, telephones and staffing for Public Information Center (PIC).
- ☐ Establish a PIC, ensuring all appropriate agencies participate.
- ☐ Provide a single point of media contact for the IC.
- ☐ Coordinate media access to the response site as approved by the IC.
- ☐ Obtain approval for release of information from the IC.
- ☐ Arrange for meetings between media and emergency responders.
- ☐ Maintain list of all media present.
- ☐ Participate in Post Incident Review (**SECTION 8.3**)

LIAISON OFFICER

If a Unified Command Structure is not established, a Liaison Officer is appointed as the point of contact for personnel assigned to the incident from assisting or cooperating agencies.

Responsibilities:

- ☐ Maintain Activity Log.
- ☐ Obtain briefing from Incident Commander (IC).
- ☐ Participate in planning meetings and briefings.
- ☐ Identify and maintain communications link with agency representatives, assisting, and coordinating agencies.
- ☐ Identify current or potential inter-organizational issues and advise IC as appropriate.
- ☐ Coordinate with Legal Group Leader and Public Information Officer (PIO) regarding information and documents released to government agencies.
- ☐ Participate in Post Incident Review (**SECTION 8.3**).

SECTION 5
INCIDENT PLANNING

Last Revised: December 16, 2020

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5.1 Documentation Procedures

5.2 Incident Action Plan and Process Meetings

Figure 5.2-1 - Operational Period Planning Cycle

5.2.1 Incident Occurs / Notifications

5.2.2 Initial Response and Assessment

5.2.3 Unified Command Objectives Meeting

5.2.4 Tactics Meeting

5.2.5 Planning Meeting

5.2.6 Incident Action Plan (IAP) Preparation and Approval

5.2.7 Operations Briefing

5.2.8 Assess Progress

5.2.9 Initial Unified Command Meeting

5.2.10 Command Staff Meeting

5.2.11 Command and General Staff Breakfast / Supper

5.2.12 Business Management Meeting

5.2.13 Agency Representative Meeting

5.2.14 News Briefing

5.3 ICS Forms

5.3.1 Incident Briefing ICS 201-OS

5.3.2 Incident Action Plan (IAP) Cover Sheet

5.3.3 Incident Objectives ICS 202-OS

SECTION 5
INCIDENT PLANNING, CONTINUED

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5.3.4 Organization Assignment List ICS 203-OS

5.3.5 Assignment List ICS 204-OS

5.3.6 Communications Plan ICS 205-OS

5.3.7 Medical Plan ICS 206-OS

5.3.8 Incident Status Summary ICS 209-OS

5.3.9 Unit Log ICS 214-OS

5.3.10 Individual Log ICS 214a-OS

5.3.11 Operational Planning Worksheet ICS 215-OS

5.4 Site Safety and Health Plan

5.5 Decontamination Plan

5.6 Disposal Plan

5.7 Dispersant Plan Authorization Checklist

5.8 Bioremediation

5.9 In-Situ Burning

5.10 Decanting

5.11 Incident Security Plan

5.12 Demobilization Plan

5.1 DOCUMENTATION PROCEDURES

Documentation of a spill response provides a historical record, keeps management informed, serves as a legal instrument, and is a means to account for the cleanup costs.

Documentation should begin immediately upon spill notification and continue until termination of all operations. Documentation should include the following:

- Spill origin and characteristics,
- Sampling surveys,
- Photographic surveys,
- Climatological data,
- Labor and equipment accounting, and
- Copies of all logs, contracts, contacts, and plans prepared for the incident

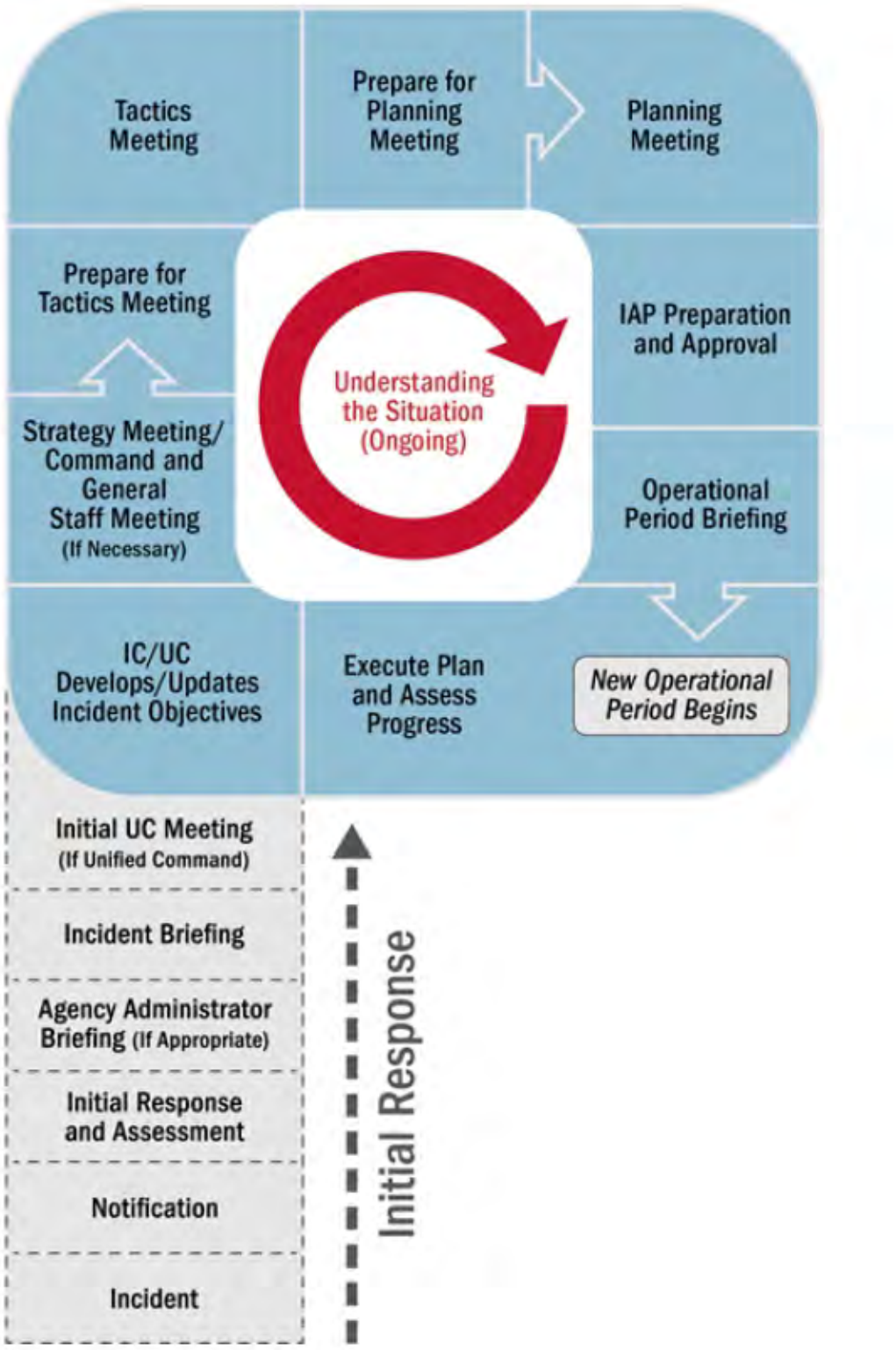
5.2 INCIDENT ACTION PLAN AND PROCESS MEETINGS

The period of INITIAL RESPONSE AND ASSESSMENT occurs in all incidents. Short-term responses (small in scope and/or duration, e.g., few resources working one operational period) often can be coordinated using only ICS 201 Briefings.

Longer-term, more complex responses, will likely require a dedicated Planning Section Chief (PSC) who must arrange for transition into the OPERATIONAL PERIOD PLANNING CYCLE. Certain meetings, briefings, and information-gathering during the Cycle lead to the Incident Action Plan (IAP) that guides operations of the next operational period. Only the meetings and events directly relevant to assembling the IAP are described. The IC/UC specifies the operational periods (e.g., 12-hour shifts, sunrise to sunset, 24-hour shifts etc.).

The SPECIAL PURPOSE meetings are most applicable to larger incidents requiring an OPERATIONAL PERIOD PLANNING CYCLE, but may have utility during INITIAL RESPONSE AND ASSESSMENT. The UNIFIED COMMAND MEETING and other special purpose meetings are briefly noted.

FIGURE 5.2-1 - OPERATIONAL PERIOD PLANNING CYCLE



5.2.1 Incident Occurs / Notifications

When an incident occurs, notifications will be made to the appropriate Federal, State, and Local agencies and the initial assessment and response actions will begin.

5.2.2 Initial Response and Assessment

INCIDENT BRIEFING (ICS 201)

During the transfer of command process, an ICS 201 formatted briefing provides the incoming IC/UC with basic information regarding the incident situation and the resources allotted to the incident. Most importantly, it is the de facto Incident Action Plan (IAP) for the initial response and remains in force and continues to develop until the response ends or the Planning Section generates the incident's first IAP. It also is suitable for briefing individuals newly assigned to Command and General Staff, as well as needed assessment briefings for the staff.

When:	New IC/UC; staff briefing, as required
Briefer:	Current IC/UC
Attendees:	Prospective IC/UC; Command, and General Staff, as required
Agenda:	Using ICS 201 as an outline, included:

1. Situation (note territory, exposures, safety concerns, etc.; use map/charts).
2. Objectives and priorities.
3. Strategies and tactics.
4. Current organization.
5. Resource assignments.
6. Resources enroute and/or ordered.
7. Facilities established.

OPERATIONAL PERIOD PLANNING CYCLE
(Events most related to assembling IAP)

5.2.3 Unified Command Objectives Meeting

The IC/UC will review/identify and prioritize objectives for the next operational period for the ICS 202 form. Objectives from the previous operational period are reviewed and any new objectives are identified.

When:	Prior to Tactics Meeting
Facilitator:	UC Member
Attendees:	UC Members; Command and General Staff, as appropriate

Agenda:

1. Review/identify objectives for the next operational period (clearly stated and attainable with the resources available, yet flexible enough to allow Operations Section Chief to choose tactics).
2. Review any open agenda items from initial/previous meetings.

5.2.4 Tactics Meeting

This 30-45 minute meeting creates the blueprint for tactical deployment during the next operational period. In preparation for the Tactics Meeting, the Planning Section Chief and Operations Section Chief review the current IAP and situation status information, as provided through the Situation Unit, to assess work progress against IAP objectives. The Operations Section Chief/Planning Section Chief will jointly develop primary and alternate strategies to meet objectives for consideration at the next Planning Meeting.

When:	Prior to Planning Meeting
Facilitator:	Planning Section Chief
Attendees:	Planning Section Chief, Operations Section Chief, Logistics Section Chief, Resources Unit Leader, Situation Unit Leader, and Environmental Unit Leader

Agenda:

1. Review the objectives for the next operational period.
2. Develop strategies (primary and alternatives).
3. Prepare a draft of ICS 215 to identify resources that should be ordered through Logistics.

5.2.5 Planning Meeting

This meeting defines incident objectives, strategies, and tactics and identifies resource needs for the next operational period. Depending on incident complexity, this meeting should last no longer than 45 minutes. This meeting fine-tunes objectives and priorities, identifies and solves problems, and defines work assignments and responsibilities on a completed ICS Form 215 (Operations Planning Worksheet). Meeting preparations include conducting a Tactics Meeting. Displays in the meeting room should include Objectives (ICS 202) for the next operational period, large sketch maps or charts clearly dated and timed, poster-size Operational Planning Worksheet (ICS 215), current resource inventory prepared by Resources Unit, and current situation status displays prepared by Situation Unit. After the meeting, the ICS 215 is used by the Logistics Section Chief to prepare the off-incident tactical and logistical resource orders, and used by Planning Section Chief to develop IAP assignment lists.

When: After the Tactics Meeting

Facilitator: Planning Section Chief

Attendees: Determined by IC/UC, generally IC/UC, Command Staff, General Staff, Air Operations Section Chief, Resources Unit Leader, Situation Unit Leader, Environmental Unit Leader, and Technical Specialists, as required

Agenda:

1. State incident objectives and policy issues. IC/UC
2. Briefing of situation, critical and sensitive areas, weather/sea forecast, resource status/availability. Planning Section Chief with Situation Unit Leader, Resources Unit Leader
3. State primary and alternative strategies to meet objectives. Operations Section Chief with Planning Section Chief, Logistics Section Chief
4. Designate Branch, Division, Group boundaries and functions, as appropriate; use maps and ICS 215. Operations Section Chief
5. Specify tactics for each Division, note limitations. Operations Section Chief, Situation Unit Leader assist
6. Specify resources needed by Divisions/Groups. Operations Section Chief, with Planning Section Chief, Logistics Section Chief
7. Specify operations facilities and reporting locations (plot on map). Operations Section Chief, Logistics Section Chief assist
8. Develop resources, support, and overhead order(s). Planning Section Chief, Logistics Section Chief
9. Consider support issues and agree on plans: communications, traffic, safety, medical, etc. Logistics Section Chief, Planning Section Chief assist
10. Assisting or cooperating agency and stakeholder group considerations regarding Incident Action Plan. Liaison Officer
11. Safety considerations regarding Incident Action Plan. Safety Officer
12. News media/public considerations regarding Incident Action Plan. Information Officer
13. Finalize, approve Incident Action Plan for next operational period. IC/UC

5.2.6 Incident Action Plan (IAP) Preparation and Approval

Immediately following the Planning Meeting, the attendees prepare their assignments for the IAP to meet the Planning Section Chief deadline

Common Components:		Responsible to Prepare
1.	Incident Objectives (ICS 202)	[Resources Unit Leader]
2.	Organization List (ICS 203)	[Resources Unit Leader]
3.	Assignment List (ICS 204)	[Resources Unit Leader/Planning Section Chief]
4.	Communications Plan (ICS 205)	[Communications Unit Leader]
5.	Medical Plan (ICS 205)	[Medical Unit Leader]
6.	Incident Map	[Situation Unit Leader]

Optional Components (use as pertinent):

Optional Components (use as pertinent):		Responsible to Prepare
1.	Air Operations Summary (ICS 220)	[Air Operations Branch Director]
2.	Traffic Plan	[Ground Support Unit Leader]
3.	Demobilization Plan	[Demobilization Unit Leader]
4.	Communications Plan (ICS 205)	[Communications Unit Leader]

5.2.7 Operations Briefing

This less-than-30-minute meeting conveys the IAP for the oncoming shift to the response organization. After this meeting, off-going field supervisors should be interviewed by their reliefs and by Operations Section Chief in order to further confirm or adjust the course of the new shift's IAP. Shifts in tactics may be made by the operations section supervisors. Similarly, a supervisor may reallocate resources within a division or group to adapt to changing conditions.

When: About an hour prior to each shift

Facilitator: Planning Section Chief

Attendees: IC/UC, Command Staff, General Staff, Branch Directors, Division/Group Supervisors, Task Force/Strike Team Leaders (if possible), Unit Leaders, others as appropriate.

	Agenda:	Responsible to Present
1.	Review of IC/UC Objectives, changes to IAP.	[Planning Section Chief]
2.	Current response actions and last shift's accomplishments.	[Operations Section Chief]
3.	Weather and sea conditions forecast.	[Situation Unit Leader]
4.	Division/Group and air operations assignment.	[Operations Section Chief]
5.	Trajectory analysis.	[Situation Unit Leader]
6.	Transport, communications, supply updates.	[Logistics Section Chief]
7.	Safety message.	[Safety Officer]
8.	Financial report.	[Finance/Administration Section Chief]
9.	News Media report.	[Information Officer]
10.	Assisting/cooperating organization/agency reports of concern.	[Liaison Officer]
11.	Incident Action Plan endorsement and motivational remarks.	[IC/UC]

5.2.8 Assess Progress

The Operations and Planning Sections will review the incident response progress and make recommendations to the IC/UC in preparation for reviewing/identifying objectives for the next operational period. This feedback/information is gathered from various sources, including Field Observers, responder debriefs, stakeholders, etc.

SPECIAL PURPOSE MEETINGS

5.2.9 Initial Unified Command Meeting

Provides UC officials with an opportunity to discuss and concur on important issues prior to joint incident action planning. The meeting should be brief, and important points documented. Prior to the meeting, parties should review and prepare to address the agenda items. Planning Meeting participants will use the results of this meeting to guide the response efforts.

When: When UC is formed, prior to the first operational period Planning Meeting

Facilitator: UC member

Attendees: Only ICs who will comprise UC

Agenda:

1. Identify jurisdictional priorities and objectives.
2. Present jurisdictional limitations, concerns, restrictions.
3. Develop collective set of incident objectives.
4. Establish and agree on acceptable priorities.
5. Adopt an overall strategy to accomplish objectives.
6. Agree on basic organizational structure and size.
7. Designate the best-qualified and acceptable Operations Section Chief.
8. Agree on General Staff personnel designations and planning, logistical, and finance agreements and procedures.
9. Agree on resource ordering procedures.
10. Agree on cost-sharing procedures.
11. Agree on informational matters.
12. Designate a Unified Command spokesperson.

5.2.10 Command Staff Meeting

Coordinate Command Staff functions, responsibilities and objectives. It is scheduled as necessary by the IC/UC. Command Staff (IC/UC, Safety Officer, Liaison Officer, Information Officer) attend.

5.2.11 Command and General Staff Breakfast / Supper

An opportunity for the Command (IC/UC, Safety Officer, Liaison Officer, Information Officer) and General Staff (Operations Section Chief, Planning Section Chief, Logistics Section Chief, Finance/Administration Section Chief) to gather under informal and relaxing conditions to share and update each other on developing issues.

5.2.12 Business Management Meeting

This under-30-minute meeting is for participants to develop and update the operating plan for finance and logistics support. The agenda could include: finance requirements and criteria imposed by contributing organizations, business operating plan for resource procurement and incident funding, cost analysis and financial summary data. Attendees include: Finance/Administration Section Chief, Cost Unit Leader, Logistics Section Chief, Supply Unit Leader, Demobilization Unit Leader. It is generally conducted before the PLANNING MEETING.

5.2.13 Agency Representative Meeting

To update agency representatives and ensure that they can support IAP. Conducted by Liaison Officer, attended by Agency Representatives. Most appropriately held after the PLANNING MEETING in order to announce plans for next operational period, yet allow for changes should the plan's expectations be unattainable by an agency.

5.2.14 News Briefing

To brief the news media and public on the most current and accurate incident facts. Set up by the Information Officer, moderated by an appropriate representative, and featuring selected spokespersons. Spokespersons should be prepared by the Information Officer to address anticipated issues. The briefing should be well planned, organized, and scheduled to meet the media’s needs.

5.3 ICS FORMS

All ICS Forms are available electronically via this Plan's Forms Navigator.

- **INCIDENT BRIEFING FORM - ICS 201 (Initial Report Only)**

  For use by the Command Staff to gather information on the Incident Management Team's (IMT) efforts to implement applicable response plans. It is prepared by the initial Incident Commander (IC) for providing documentation of the initial response.

- **INCIDENT ACTION PLAN**

  For use by the Planning Section to plan each day's response actions. This plan consists of the portions identified on the IAP cover page and must be approved by the Incident Commander, Federal On-Scene Coordinator (FOSC), and State On-Scene Coordinator (SOSC).

- In addition, these Incident Command System (ICS) forms may be found on the U.S. Coast Guard web page: http://www.uscg.mil/pacarea/pm/icsforms/ics.htm

  - **INCIDENT ACTION PLAN (IAP) COVER SHEET**

    For use in presenting initial information, signature approval, and table of contents of forms contained in the IAP.

  - **INCIDENT OBJECTIVES - ICS 202**

    Describes the basic incident strategy, control objectives, and provides weather, tide and current information, and safety considerations for use during the next operational period.

  - **ORGANIZATION ASSIGNMENT LIST - ICS 203**

    Provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit.

  - **ASSIGNMENT LIST - ICS 204**

    Submits assignments at the level of Division and Groups.

  - **COMMUNICATIONS PLAN - 205**

    Is used to provide, in location, information on all radio frequency assignments down to Division/Group level for each operation period.

  - **MEDICAL PLAN - ICS 206**

    Provides information in incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

  - **INCIDENT STATUS SUMMARY - ICS 209**

    Used to inform personnel about the status of response efforts. It is not included in the IAP.

  - **UNIT LOG - ICS 214**

    Used to log activities for an entire unit.

  - **INDIVIDUAL LOG - ICS 214a**

    Used to log activities for an individual.

5.3.1 Incident Briefing ICS 201-OS

1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS

3. Map/Sketch

(Include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines or other graphics depicting situational and response status)

5.3.1 Incident Briefing ICS 201-OS, Continued

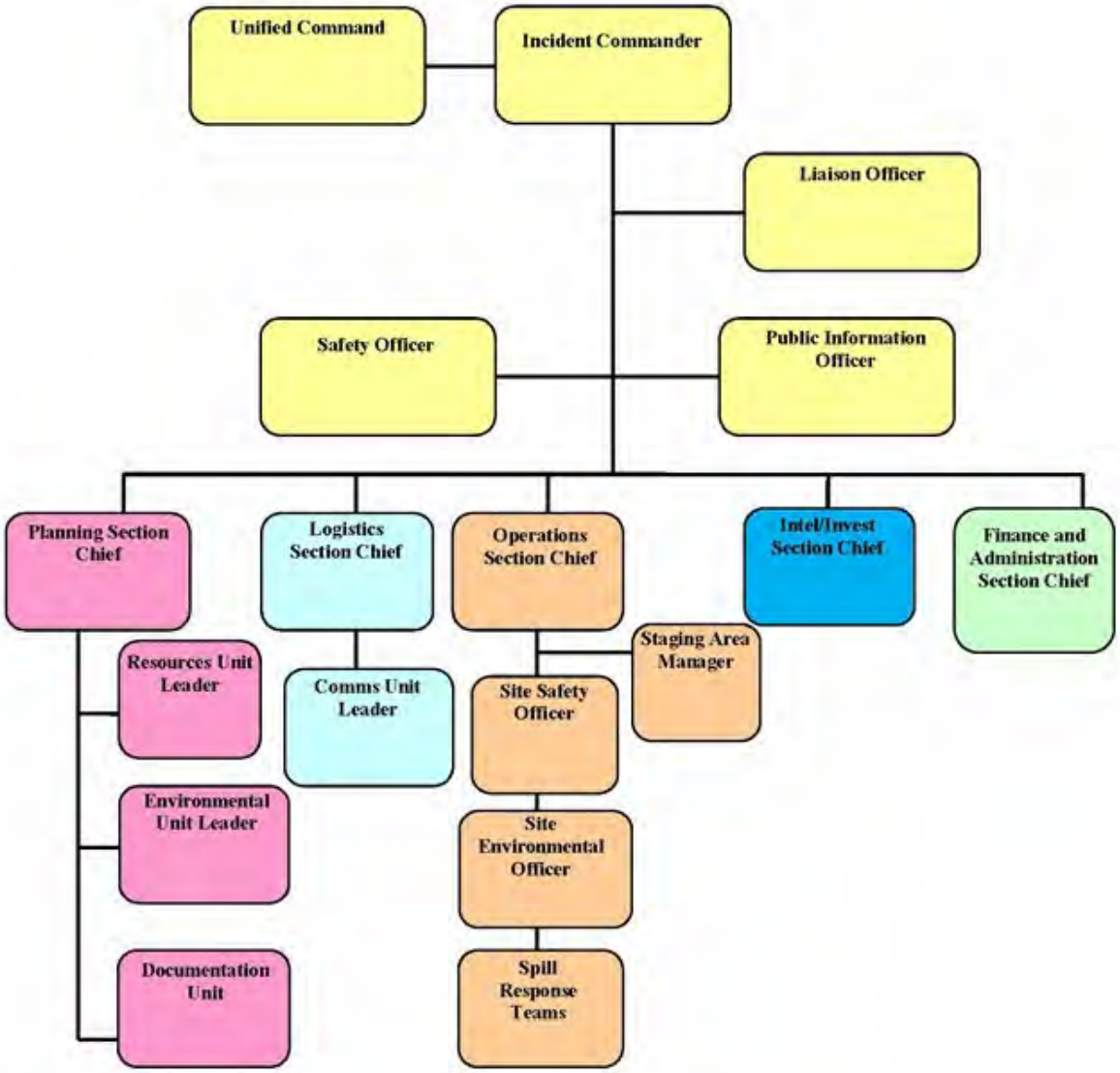
1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS
4. Initial Incident Objectives		
5. Summary of Current Actions		

Time	Action/Note

5.3.1 Incident Briefing ICS 201-OS, Continued

1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS

6. Current Organization



5.3.1 Incident Briefing ICS 201-OS, Continued

1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS

7. Resources Summary

Resources Needed	Time Ordered	Resource Identifier	ETA	On Scene? (X)	Notes: (Location/Assignment/Status)

5.3.1 Incident Briefing ICS 201-OS, Continued

Initial Site Safety Assessment - WR

Incident I.D.:_____

What to evaluate during Initial Site Safety Assessment?

1 Source Controlled (Circled)?	Yes or No
2 Product(s) Involved:	
3 Affected Personnel:	
4 Weather /Environmental Impact	Wind Direction from: Wind Speed (mph): Rain (Circled)? Yes or No Current (knot) /Tides (if there is marine activities):
5 IH / Air Monitoring Data	Date / Time:
	LEL (%):
	Oxygen (%):
	CO (ppm):
	Others:
6 Apparent Hazards	
7 PPE	

- **Full Site Safety Plan will be developed with ICS.**

Additional Comments:

5.3.2 Incident Action Plan (IAP) Cover Sheet

1. Incident Name	2. Operational Period to be covered by IAP (Date/Time)		IAP COVER SHEET
	From:	To:	

3. Approved by:

FOSC

SOSC

IC

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ☐ ICS 202-OS (Incident Objectives)
- ☐ ICS 203-OS (Organization Assignment List)
- ☐ ICS 204-OS (Assignment List)
- ☐ ICS 205-OS (Communications Plan)
- ☐ ICS 206-OS (Medical Plan)
- ☐ ICS 209-OS (Incident Status Summary)
- ☐ ICS 214-OS (Unit Log)
- ☐ ICS 214a-OS (Individual Log)
- ☐
- ☐

4. Prepared By: (Planning Section Chief)	Date/Time:

5.3.3 Incident Objectives ICS 202-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-OS
3. Overall Incident Objective(s)		
4. Objectives for Specified Operational Period		
5. Safety Message for Specified Operational Period Approved Site Safety Plan Located at:		
6. Weather: See Attached Weather Sheet		
7. Tides/Currents: See Attached Tide/Current Data		
8. Time of Sunrise:	Time of Sunset:	
9. Attachments (check if attached) ☐ Organization List (ICS 203-OS) ☐ Assignment List (ICS 204-OS) ☐ Communications Plan (ICS 205-OS) ☐ Medical Plan (ICS 206-OS) ☐ Weather		
10. Prepared By: (Planning Section Chief)	Date/Time:	
INCIDENT OBJECTIVES	March, 2000	ICS 202-OS

5.3.4 Organization Assignment List ICS 203-OS

1. Incident Name	2. Operational Period (Date/Time)	ORGANIZATION ASSIGNMENT LIST ICS 203-OS
	From: To:	

3. Incident Commander and Staff

	Primary	Deputy
Federal:		
State:		
IC:		
Safety Officer:		
Information Officer:		
Liaison Officer:		

4. Agency Representatives

Agency	Name

5. Planning Section

Chief	
Deputy	
Resources Unit	
Situation Unit	
Environmental Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. Logistics Section

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation Unit	
Cost Unit	

a. Support Branch

Director	
Supply Unit	
Facilities Unit	
Transportation Unit	
Vessel Support Unit	
Ground Support Unit	

b. Service Branch

Director	
Communications Unit	
Medical Unit	
Food Unit	

7. Operations Section

Chief		
Deputy		

a. Branch I - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

b. Branch II - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

c. Branch III - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

d. Air Operations Branch

Air Operations Br. Dir.	
Air Tactical Supervisor	
Air Support Supervisor	
Helicopter Coordinator	
Fixed-wing Coordinator	

8. Finance Section

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation Unit	
Cost Unit	

9. Prepared by: (Resources Unit) **Date/Time**

ORGANIZATION ASSIGNMENT LIST March, 2000 ICS 203-OS

5.3.5 Assignment List ICS 204-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	ASSIGNMENT LIST ICS 204-OS

3. Branch	4. Division/Group

5. Operations Personnel	Name	Affiliation	Contact # (s)
Operations Section Chief:			
Branch Director:			
Division/Croup Supervisor:			

6. Resources Assigned This Period	"X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info. #	# of Persons	Notes/Remarks

7. Assignments

8. Special Instruction for Division/Group

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/ Channel	Phone	Pager

Emergency Communications			
Medical	Evacuation	Other	

10. Prepared By (Resources Unit Leader)	Date/Time	11. Approved By (Planning Section Chief)	Date/Time

5.3.6 Communications Plan ICS 205-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	COMMUNICATIONS PLAN ICS 205-OS

3. Basic Radio Channel Use					
SYSTEM/CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

4. Prepared By (Communications Unit)	Date/Time

5.3.7 Medical Plan ICS 206-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	MEDICAL PLAN ICS 206-OS

3. Medical Aid Stations

Name	Location	Contact #	Paramedics On Site (Y/N)

4. Transportation

Ambulance Service	Address	Contact #	Paramedics On Board (Y/N)

5. Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Ctr?	Heli-Pad?
			Air	Ground		

6. Special Medical Emergency Procedures

7. Prepared By (Medical Unit Leader)	Date/Time	8. Reviewed By (Safety Officer)	Date/Time

5.3.8 Incident Status Summary ICS 209-OS

1. Incident Name	2. Period Covered By Report From: To:	Time of Report	INCIDENT STATUS SUMMARY ICS 209-OS

3. Spill Status (Estimated, in Barrels)		[OPS/EUL/SSC]	
Source Status:	Remaining Potential (bbl):		
	Rate of Spillage (bbl/hr):		
Secured	☐	Unsecured	☐

	Since Last Report	Total
Volume Spilled		
Mass Balance/Oil Budget		
Recovered Oil		
Evaporation		
Natural Dispersion		
Chemical Dispersion		
Burned		
Floating, Contained		
Floating, Uncontained		
Onshore		
Total Spilled Oil Accounted For:		

4. Waste Management (Estimated)			[OPS/Disposal]
	Recovered	Stored	Disposed
Oil (bbl)			
Oily Liquids (bbl)			
Liquids (bbl)			
Oily Solids (tons)			
Solids (tons)			

5. Shoreline Impacts (Estimated, in miles)		[PSC/EUL/SSC]	
Degree of Oiling	Affected	Cleaned	To Be Cleaned
Light			
Medium			
Heavy			
Total			

6. Wildlife Impacts					[OPS/Wildlife Br.]	
Numbers in ( ) indicate subtotal that are threatened / endangered species.					Died in Facility	
	Captured	Cleaned	Released	DOA	Euth.	Other
Birds						
Mammals						
Reptiles						
Fish						
Total						

7. Safety Status	[Safety Officer]
Since Last Report	Total
Responder Injury	
Public Injury	

8. Equipment Resources				[RUL]
Description	Ordered	Available / Staged	Assigned	Out of Service
Spill Resp. Vsls				
Fishing Vessels				
Tugs				
Barges				
Other Vessels				
Skimmers				
Boom (ft.)				
Sbnt/Snr Bm. (ft.)				
Vacuum Trucks				
Helicopters				
Fixed Wing				

9. Personnel Resources			[RUL]
Description	People in Cmd. Post	People in the Field	Total People On Scene
Federal			
State			
Local			
RP			
Contract Personnel			
Volunteers			
Total Response Personnel From All Organizations:			

10. Special Notes

11. Prepared By (Situation Unit Leader)	Date/Time

5.3.9 Unit Log ICS 214-OS

1. Incident Name	2. Operational Period (Date / Time) From: To:	UNIT LOG ICS 214-OS
3. Unit Name	4. Unit Leader (Name and ICS Position)	

5. Personnel Assigned		
Name	ICS Position	Home Base

6. Activity Log (Continue on Reverse)	
Time	Major Events

7. Prepared by:	Date / Time

5.3.9 Unit Log ICS 214-OS, Continued

1. Incident Name	2. Operational Period (Date / Time) From: To:	UNIT LOG(Cont) ICS 214-OS
3. Unit Name	4. Unit Leader (Name and ICS Position)	

5. Personnel Assigned		
Name	ICS Position	Home Base

6. Activity Log (Continue on Reverse)	
Time	Major Events

7. Prepared by:	Date / Time

5.3.10 Individual Log ICS 214a-OS

1. Incident Name	2. Operational Period (Date / Time) From: To:	INDIVIDUAL LOG ICS 214a-OS

3. Individual Name	4. ICS Section	5. Assignment / Location

6. Activity Log	Page	of

Time	Major Events

7. Prepared by:	Date / Time

5.3.11 Operational Planning Worksheet ICS 215-OS

1. Incident Name		2. Operational Period: (Date / Time) From: To:					OPERATIONAL PLANNING WORKSHEET ICS 215-OS			
3. Division / Group or Location	4. Work Assignments	5. Resource / Equipment					6. Notes / Remarks	7. Reporting Location	8. Requested Arrival Time	9. "X" here if 204a Needed
		Resource								
		Req.								☐
		Have								
		Need								
		Req.								☐
		Have								
		Need								
		Req.								☐
		Have								
		Need								
		Req.								☐
		Have								
		Need								
		Req.								☐
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		Have								
		Need								
		Req.								☐
		Have								
		Need								
		Req.								☐
		Have								
		Need								
		Req.								☐
		Have								
		Need								
10. Total Resources Required							13. Prepared by:			
11. Total Resources On Hand							Date:		Time:	
12. Total Resources Needed										
OPERATIONAL PLANNING WORKSHEET				June 2000						ICS 215-OS

5.4 SITE SAFETY AND HEALTH PLAN

See **APPENDIX G** for NuStar Health and Safety Plan (HASP).

5.5 DECONTAMINATION PLAN

Incident Name:	**Location:**
Effective Date of Plan:	**Effective Time Period of Plan:**
Spill Location:	**Plan Prepared By:**

- **Work Zones:**
    - Support (cold) zone
    - Contamination reduction (warm) zone
    - Exclusion (hot) zone

  These zones are identified by signs, barrier tape or other means. Decontamination is performed in the contamination reduction zone. When responders exit the exclusion zone they must be decontaminated.

  Crews are available to assist in decontamination procedures as needed. The crews must wear appropriate personal protective equipment (PPE), and are responsible for packaging and labeling of contaminated PPE.

- **Decontamination Stations:**

  Decontamination is performed within the contamination reduction zone, which is appropriately lined to prevent the spread of contaminants. Dikes are installed under the lining to contain runoff.

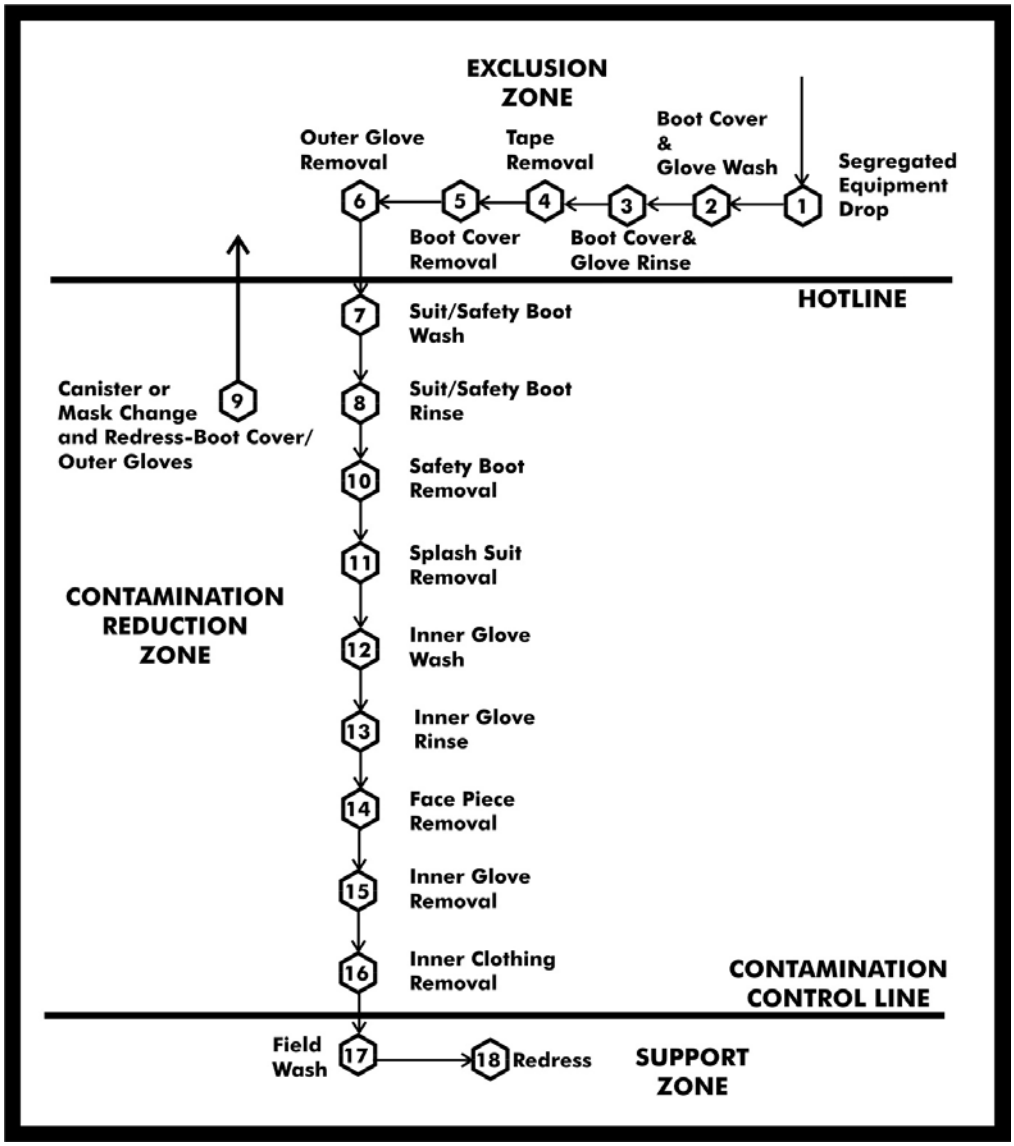
5.5 DECONTAMINATION PLAN, CONTINUED

Procedures for these stations are as follows:

MAXIMUM MEASURES FOR DECONTAMINATION		
STATION 1	Segregated equipment drop	Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be set up within this area.
STATION 2	Boot cover and glove wash	Scrub outer boot cover and gloves with decontamination solution or detergent and water.
STATION 3	Boot cover and glove rinse	Rinse off decontamination solution from Station 2 using copious amounts of water.
STATION 4	Tape removal	Remove tape around boots and gloves and deposit in container with plastic liner.
STATION 5	Boot cover removal	Remove boot covers and deposit in containers with plastic liner.
STATION 6	Outer glove removal	Remove outer gloves and deposit in container with plastic liner.
STATION 7	Suit and boot wash	Wash splash suit, gloves, and safety boots. Scrub with long-handled scrub brush and decontamination solution.
STATION 8	Suit and boot and glove rinse	Rinse off decontamination solution using water. Repeat as many times as necessary.
STATION 9	Canister or mask change	If worker leaves exclusion zone to change canister or this is the last step in the decontamination procedure; worker's canister is exchanged, new outer gloves and boot covers are donned, joints are taped, and the worker returns to duty.
STATION 10	Safety boot removal	Remove safety boots and deposit in container with plastic liner.
STATION 11	Splash suit removal	With assistance of helper, remove splash suit. Deposit in container with plastic liner.
STATION 12	Inner glove wash	Wash inner gloves with decontamination solution.
STATION 13	Inner glove rinse	Rinse inner gloves with water.
STATION 14	Face piece removal	Remove face piece. Deposit in container with plastic liner. Avoid touching face with fingers.
STATION 15	Inner glove removal	Remove inner gloves and deposit in lined container.
STATION 16	Inner clothing removal	Remove clothing soaked with perspiration and place in lined container. Do not wear inner clothing off-site since there is a possibility that small amounts of contamination might have been transferred in removing the protective suit.
STATION 17	Field wash	Shower if highly toxic, skin-corrosive or skin-absorbable materials are known or suspected to be present. Wash hands and face if shower is not available.
STATION 18	Re-dress	Put on clean clothes.

5.5 DECONTAMINATION PLAN, CONTINUED

DECONTAMINATION PROCEDURES, MAXIMUM DECONTAMINATION LAYOUT

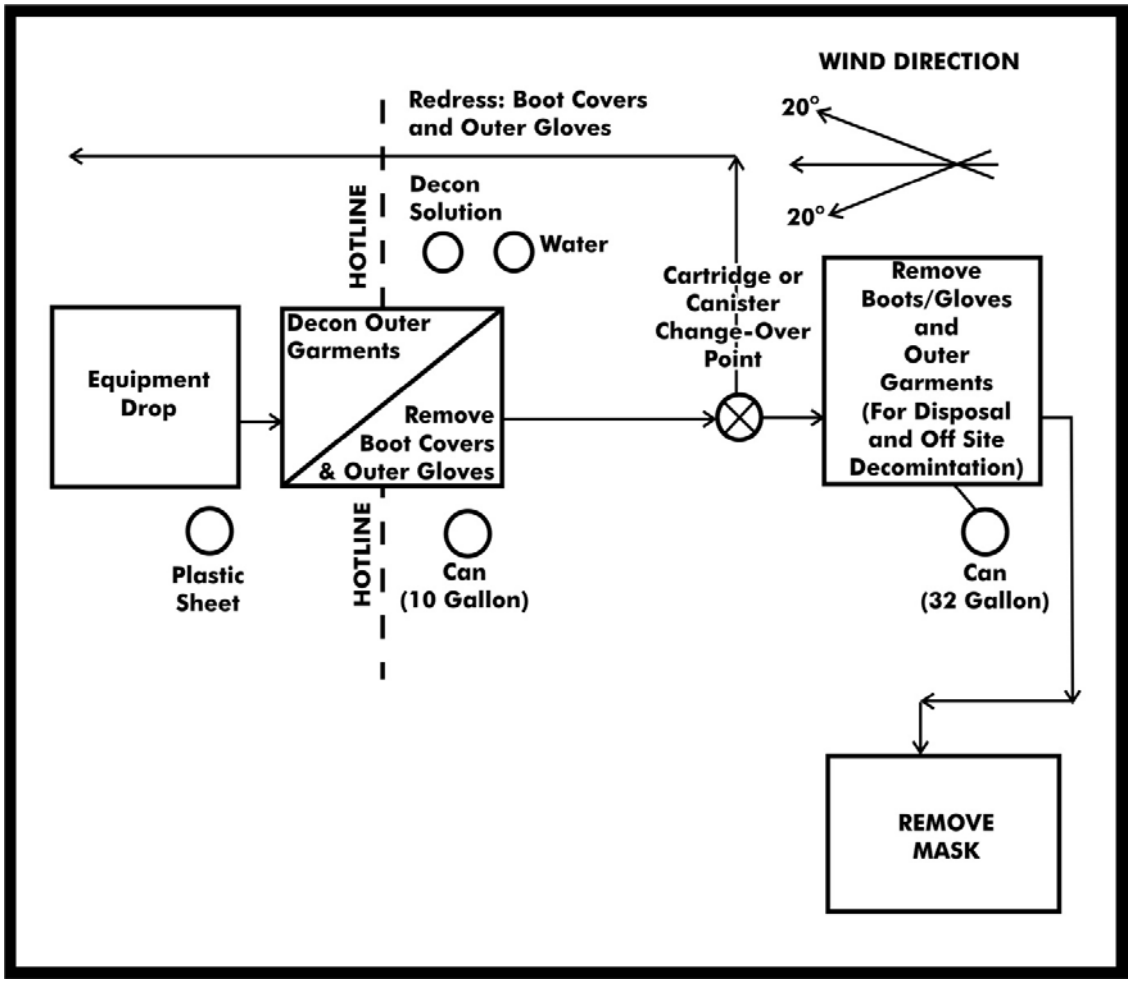


5.5 DECONTAMINATION PLAN, CONTINUED

MINIMUM MEASURES FOR DECONTAMINATION		
STATION 1	Equipment drop	Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be set up within this area.
STATION 2	Outer garment, boots and gloves wash, and rinse	Scrub outer boots, outer gloves, and splash suit with decontamination solution or detergent and water. Rinse off using copious amounts of water.
STATION 3	Outer boot and glove removal	Remove outer boots and gloves. Deposit in container with plastic liner.
STATION 4	Canister or mask change	If worker leaves exclusion zone to change canister (or mask) or this is the last step in the decontamination procedures; worker's canister is exchanged, new outer gloves and boot covers are donned, joints are taped, the worker returns to duty.
STATION 5	Boot, gloves, and outer garment removal	Boots, chemical-resistant splash suit, inner gloves removed and deposited in separate containers lined with plastic.
STATION 6	Face piece removal	Face piece is removed. Avoid touching face with fingers. Face piece deposited on plastic sheet.
STATION 7	Field wash	Hands and face are thoroughly washed. Shower as soon as possible.

5.5 DECONTAMINATION PLAN, CONTINUED

DECONTAMINATION PROCEDURES, MINIMUM DECONTAMINATION LAYOUT



5.6 DISPOSAL PLAN

Date:	Location:
Source of release:	
Amount of release:	
Incident name:	
State On-Scene Coordinator:	
Federal On-Scene Coordinator:	
Time required for temporary storage:	
Proposed storage method:	

Disposal priorities:

Sample date:	Sample ID:
Analysis required (type):	
Laboratory performing analysis:	

Disposal options:

	Available	Likely	Possible	Unlikely
Landfill:				
In situ/ bio-remediation:				
In situ burn:				
Pit burning:				
Hydrocyclone:				
Off site incineration:				
Reclaim:				
Recycle:				

Resources required for disposal options:

General information:

Generator name:	US EPA ID#:
Waste properties:	Waste name:
US EPA waste code:	State waste code:
EPA hazardous waste:	
Waste storage and transportation:	
Proposed storage method:	
Proposed transportation method:	

5.6 DISPOSAL PLAN, CONTINUED

Permits required for storage:
Permits required for transportation:
Estimated storage capacity:
Number and type of storage required:
Local storage available for temporary storage of recovered oil:

PPE required for waste handling:	
Waste coordinator:	Date:

Resources required for disposal options:

Incident name:	
Sample number:	Date sent:
Source of sample:	
Date sample data received:	
Waste hazardous:	Non-hazardous:
Permits/variances requested:	
Approval received on waste profile:	
Date disposal can begin:	
Disposal facilities:	
Profile number:	
Storage contractors:	
Waste transporters:	
PPE designated and agrees with Site Safety and Health Plan:	

5.6 DISPOSAL PLAN, CONTINUED

Additional information:
Waste coordinator:

5.7 DISPERSANT PLAN AUTHORIZATION CHECKLIST

1.	**Dispersability:** Available technical information or experience suggests that the spilled product is dispersible and will still be dispersible in the time frame of anticipated application of dispersants.
2.	**National Contingency Plan (NCP) Listed Dispersant:** The dispersant to be used is listed on the current NCP Product Schedule and is considered appropriate for the oil type and conditions. www.epa.gov/oilspill/ncp
3.	**Inadequacy of other options:** Mechanical response equipment alone is not deemed adequate (due to the magnitude of the spill, availability, or timeliness) to protect potential resources at risk. Environmental trade-offs of dispersant use have been considered.
4a. 4b.	**Dispersant Availability and Timeliness:** Enough dispersant and application equipment has been confirmed to be available to: **a)** make an impact on the spilled product, and **b)** be deployable within the proposed time frame.
5.	**Weather Conditions:** Weather and sea conditions are conducive to dispersant application by the chosen system or platform. (Generally, for aerial application: wind ≤25 knots, visibility ≥3 statute miles, and ceiling ≥1000 feet. Generally for boat application, a sea state that will allow the vessel to be used to conduct an effective and safe spray operation.)
6.	**PPE:** Personal protective equipment for personnel on-site will conform to the appropriate dispersant's MSDS and safe industry practice.
7a.	**General Adequacy of Dispersant Spray System and Personnel Competency:** In addition to any other requirements of the Region 5 RRT and Northwest Area Committee, the general criteria for evaluating the suitability for use of any dispersant system should be the ability of the party or parties requesting approval to demonstrate to the satisfaction of the FOSC, the following: **a)** That the application system has been i. Specifically designed for its intended purpose, or ii. If not specifically designed for dispersant use, has been used previously and was deemed to be effective and appropriate, and will be used again in a similar manner, or iii. By some other specific means of documentation or experience reasonably deemed to be effective and appropriate under the circumstances.
7b.	**b)** That the design and operation of the application system can reasonably be expected to apply the chemical dispersant in a manner consistent with the dispersant manufacturer's recommendations, especially with regard to dosage rates, and concentrations.
7c.	**c)** That the operation will be supervised or coordinated by personnel who have experience, knowledge, specific training, and/or recognized competence with chemical dispersants and the type of system to be used.
8a.	**Aerial Application Operational and Technical Issues:** In the case of Aerial Application of dispersants: **a)** The FOSC must ensure that the Responsible Party's dispersant operation provides for a dispersant controller over the spray zone able to effectively direct the dispersant aircraft in carrying out the dispersant operation, including avoiding the spraying of birds and marine mammals that may be in the area.
8b.	**b)** Aircraft spray systems must be capable of producing dispersant droplet sizes that provide for optimal dispersant effectiveness as described in ASTM guidelines or as supported by peer-reviewed research.

5.7 DISPERSANT PLAN AUTHORIZATION CHECKLIST, CONTINUED

9.	**Boat Application Operational Technical Issues:** If the system involves spray arms or booms that extend out over the edge of a boat and have fan type nozzles that spray a fixed pattern of dispersant, the dispersant operator has confirmed that application will comply with the following ASTM standards as appropriate: a) ASTM F 1413-92 Standard Guide for Oil Spill Dispersant Application Equipment: Boom and Nozzle Systems b) ASTM F 1460-93 Standard Practice for Calibrating Oil Spill Dispersant Application Equipment Boom and Nozzle Systems c) ASTM F 1737-96 Standard Guide for Use of Oil Spill Dispersant Application Equipment during Spill Response: Boom and Nozzle Systems.
10.	**Fire Monitor Operational and Technical Issues:** If the system involves the use of a fire monitor and or fire nozzle to apply the dispersants from a boat, the dispersant operator has confirmed that application will comply with ASTM Standard F 2465-05 for fire monitors and has provided the information in paragraph 7 of the Standard titled "Information to be provided by the user" to ensure that the fire monitor meets the standard and is acceptable for use. The specific fire monitor system(s) intended for use must have been specifically designed for dispersant application and/or must have been specifically calibrated via field trial for dispersant use.
11.	**SMART Deployment:** The FOSC has activated Special Monitoring of Applied Response Technologies (SMART), including a SMART observer, at a minimum, to fly over the response zone to visually assess effectiveness of the dispersant applications (Tier I). See Section 4612 and 9670.
12.	**Wildlife Observation:** A specialist in aerial surveillance of wildlife or overflight observation should accompany the SMART observer in order to observe birds and marine mammals that should be avoided in the potential dispersant application area. Both U.S. Fish and Wildlife Service and NOAA have been given the opportunity to provide such specialists. The DOI and NOAA RRT representatives have been notified of the spill and are responsible for notifying and mobilizing their respective qualified wildlife observation specialists in time for the dispersant application. If specialists with U.S. Fish and Wildlife Service and NOAA are not available at the time of dispersant application, the FOSC has designated an aerial surveillance specialist, preferably from a Federal or State Trustee agency. For case-by-case approval zones, the state RRT representative with jurisdiction and/or tribe with off reservation treaty rights has been given the opportunity to provide a wildlife aerial surveillance observer. The state RRT representative with jurisdiction and/or the tribe(s) with off reservation treaty rights in the area threatened by the discharge have been notified and are responsible for mobilizing their respective qualified wildlife observation specialist in time for the dispersant application.
13.	**Endangered Species Act (ESA) and Essential Fish Habitat (EFH) Consultations:** RRT representatives of DOI and DOC have been notified and, if listed species and/or critical habitat are present in the area or could be present, emergency consultation has been initiated. FWS and NMFS representatives have provided recommendations to avoid and/or minimize impacts to listed species and/or critical habitat, advised the FOSC whether incidental take related to response actions is anticipated and, if so, advised the FOSC to document incidental take for use in formal consultation post-response. Both the FOSC and FWS/NMFS representatives will maintain records of oral and written communications. In case-by-case approval zones, the state RRT representative with jurisdiction and/or the tribe(s) with off reservation treaty rights in the area threatened by the discharge has been given the opportunity to provide input on listed species and/or critical habitat.

*** If the answer to any item on the checklist is "N," explanation and justification for authorization of dispersant use must be included in After-Action Report. (NACP 4611.2)**

5.8 BIOREMEDIATION

The use of bioremediation in open water is an unproven technology that currently shows little or no promise of removing significant quantities of oil from the surface of the water prior to shoreline impact or natural dispersion. Bioremediation by nutrient enhancement or seeding of biodegrading organisms is therefore not allowed on the surface of open water. This policy can be reviewed by the RRT if there is new and significant evidence that bioremediation can be a significant factor in oil removal on open water.

Bioremediation of Shorelines

Seeding of exotic organisms for pollution response is prohibited in Response Region Ten. This is due to unproven efficacy of such procedures and the unknown ecological effects resulting from the implementation of such.

Bioremediation is an effective technique for the encouragement of oil biodegradation on some contaminated shorelines. Nonetheless, this strategy is unlikely to lead to rapid decontamination of beaches. Consequently, bioremediation should be used as the primary treatment only when oil concentrations are low (less than 15 grams of oil for every kilogram of sediment) and conventional forms of cleanup (heavy equipment use or manual cleaning) are likely to do more damage than good. Bioremediation should be considered as a polishing technique after gross contamination is removed by conventional means.

The use of bioremediation for oil spill clean up will be allowed only on a case-by-case basis.

5.9 IN-SITU BURNING

The following checklist and worksheet are provided as a summary of important information to be considered by the Unified Command in reviewing any request to conduct in-situ burning in response to an oil spill in Washington, Oregon, and Idaho waters. The flowchart shown in **FIGURE 6.4-1** summarizes the process for making a burn decision. The decision to burn involves three basic factors. If the oil has ignited due to collision or another means, allowing continued burning may be unavoidable or beneficial. Second, the decision to burn must consider whether this tool will offer a greater level of efficiency in removing oil on water and/or reducing oil impacts to sensitive resources. Third, the decision must evaluate whether it is practical, feasible, and safe to burn given the spill and conditions involved.

The application process begins with a simple preliminary feasibility analysis. If that analysis concludes that in-situ burning may be feasible, the application checklist and window-of-opportunity worksheet should be completed. The checklist is divided into several sections of information about the spill, weather, proposed burning plan, and potential impacts. Most checklist questions reference items on the worksheet. When completed, the checklist and worksheet will identify the window-of-opportunity when in-situ burning would be allowed based on environmental, public health, and operational constraints. Note that the checklist must be updated for each new burn scenario proposed. It is important to note that even if the checklist and worksheet fail to show that in-situ burning is appropriate at one point in time (i.e., a "NO" answer), changes in environmental or other factors may make in-situ burning a feasible option at a later time.

5.9 IN-SITU BURNING, CONTINUED

Preliminary Feasibility Analysis

1. Is the spilled oil already burning? Yes ___ No ___

⇒ If yes, skip remaining questions and proceed with the rest of application.

2. Are prevailing and forecasted winds and atmospheric conditions likely to cause heavy smoke exposure to populated areas? Yes___ No ___

⇒ If no, proceed with Question 3.

3. Do natural resource managers concur that in-situ burning will cause less overall harm to marine resources (e.g., heat, burn residue) than the harm to those resources anticipated if in-situ burning does not occur (e.g., oiling of shorelines, wildlife, kelp, etc)? Yes___ No ___

⇒ If yes, proceed with Question 4.

4. Are equipment and trained personnel available to conduct in-situ burning operations? Yes___ No ___

⇒ If yes, proceed with Question 5.

5. Is the oil concentration and type suitable for containment and burning? Yes___ No___

⇒ If yes, proceed with rest of application.

If any answer to the above questions does not result in instructions to proceed with the application, approval of an in-situ burning application is very unlikely at this point of time until conditions change.

5.9 IN-SITU BURNING, CONTINUED

Application Checklist

Spill Data

Date of incident (month/date/year): _____ Time of incident: _____

Name of incident/responsible party :

Location of incident _____ Latitude: _____ N Longitude _____ W

Type(s) of oil spilled:

Estimated volume of oil spilled into water: _____

Estimated volume of oil at risk of spilling: _____

Release status: Stopped __ Intermittent __ Continuous __ Outflow Rate: _____

Forecasted surface area of spill at time of projected burn: _____

Continuous slick ___ Large patches ___ Ribbons/streamers ____

Will oil concentration be sufficient to burn? Yes ___ No ___

⇒ **See #1 on worksheet**

Anticipated oil trajectory (attach NOAA forecasts if available):

Forecasted oil distance/direction to nearest land at time of projected burn:

Expected areas and times of shoreline oil impact:

⇒ **See #2 on worksheet**

Estimated percentage of natural dispersion and evaporation during:

first 24 hours _____ second 24 hours _____

Oil emulsification at this time: Unknown ___ None ___ Light (*0-20%)* ___

Moderate (*21-50%)*__ Heavy (*over 50%)* ___

Will emulsification likely be less than 50% at projected time of burn?

Yes __ No __ Unknown __ ⇒ **See #3 on worksheet**

Distance (*in miles*) and direction to nearest population center

(> 100 people per sq. mile):

Name of nearest population center:

5.9 IN-SITU BURNING, CONTINUED

Weather/Environmental Conditions <u>at time of projected burn</u>

Temperature: Air = _____ °F Water = _____ °F

Weather: Clear __ Partly cloudy __ Overcast __ Rain __ Fog __

Snow __ Freezing __

Surface visibility _____ Ceiling level _____

Is prevailing and forecasted visibility more than 500 ft. vertically and 0.5 mile horizontally? Yes ___ No ___ ⇒ **See #4 on worksheet**

Surface current: Speed _____ Direction _____

Wind conditions: Speed _____ Direction (from) _____

Are prevailing and forecasted winds less than 25 knots? Yes ___ No ___

⇒ **See #5 on worksheet**

Tide state: Flood ____ Ebb ____ Slack Water ____

Sea State: Calm ___ Choppy ____ Swell (in feet) ____

Waves: Less than 1 ft __ 1-3 ft __ More than 3 ft __

Direction (from) ____ ⇒ **See #6 on worksheet**

Other weather/sea condition information:

Proposed Burning Plan

Location of the proposed burn relative to the spill site:

Location of the proposed burn relative to nearest ignitable slick(s):

Location and direction of the proposed burn relative to nearest land:

Can accidental fires be avoided? Yes ___ No ____ If yes, what actions are planned:

Can ignition/burn occur at a safe distance from other response operations and public, recreational, and commercial activities? Yes ___ No ___

⇒ **See #7 on worksheet**

Method(s) used to notify residents living within the potential smoke plume trajectory:

⇒ **See #8 on worksheet**

Method(s) used to notify mariners and aircraft pilots:

Method(s) used to avoid impacts to marine life in vicinity of burn:

Type of ignition system proposed for use:

When will ignition system, fire-resistant boom, and deployment equipment/vessels be on-scene and available for use?

⇒ **See #9 on worksheet**

5.9 IN-SITU BURNING, CONTINUED

How will ignition be carried out:

If a heli-torch ignition system is to be used, is the helicopter qualified for offshore flight and does it meet FAA certification requirements?
Yes ___ No ____

Method used to collect/concentrate oil, if any:

Amount of fire boom available for use at time of projected burn:
_____ feet ⇒ **See #9 on worksheet**

Number of boom-towing vessels and support vessels available:

Proposed location of oil containment relative to spill source:

Proposed burning strategy:

___ Immediate ignition at or near source

___ Ignition away from source after containment and movement to safe location

___ Controlled burning in boom or natural collection site at or near shore

___ Possible need for multiple ignition attempts.

Are floating debris and other safety hazards acceptable? Yes ___ No ___

Are sufficient numbers of trained personnel available on-scene to conduct safe and effective burn? Yes ___ No ___
⇒ **See #10 on worksheet**

Estimated amount of oil to be burned:

Estimated duration of burn:

Method of collecting burned oil residue:

Estimated amount of burned oil residue to be collected:

Proposed interim storage and disposal of burned oil residue:

Back-up plan for collecting contained oil if burn fails:

Burn Impacts

Is adequate air modeling support available? Yes ___ No ___

Do prevailing conditions and air modeling results indicate that PM-10 standards can be met?
Yes ___ No ___ ⇒ **See #11 on worksheet**

c. Will visibility remain safe at sensitive locations (e.g., airports, freeways)?

Yes __ No __

d. Are adequate air support and burn monitoring equipment on-scene and available?

Yes ___ No ___ ⇒ **See #12 on worksheet**

e. How will operational impacts to wildlife in vicinity be monitored?

5.9 IN-SITU BURNING, CONTINUED

Name of Application Preparer: _____

Date/Time Submitted to Planning Section Chief: _____

Approval by Planning Chief: _____

Unified Command Decision:

____ Approval to implement burn plan

____ Approval to conduct small pilot burn

____ Burn plan disapproved at this time

5.9 IN-SITU BURNING, CONTINUED

Window of Opportunity Worksheet

Spill Time and Date:

Spill Name:

This worksheet should be filled out in conjunction with the In-Situ Burning Application Checklist. Fill in top row based on time of incident (e.g., if incident is at 0300, fill that in for hour 1; 0400 for hour 2, etc.). For each worksheet item, mark in each time segment where the item applies. The likely window-of-opportunity equates to those time segments where all items are marked.

Windown of Opportunity Feasibility Factors	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time	Hr. __ Time
Spill Data/Environmental Conditions												
1. Oil concentration is suitable for containment & burning												
2. Burning can still reduce significant shoreline impacts												
3. Oil emulsification is less than 50%												
4. Visibility > 500 ft. vertically & > 0.5 mile horizontally												
5. Wind speed is less than 25 knots												
6. Wave height less than 3 feet												
Proposed Burning Plan												
7. Burn can occur at safe distance from public & activities												
8. Public notification needs have been addressed												
9. All burn equipment on-scene and ready												
10. Trained personnel on-scene & ready												
Burn Impacts												
11. PM-10 standards can be met												
12. Air monitoring equipment & support are set up & ready												

5.10 DECANTING

OIL SPILL DECANTING AUTHORIZATION FORM	
The federal and state OSCs, under authority of RCW 90.56.320(1) and WAC 173-201A-110 (in Washington), or ORS/OAR _____ (in Oregon), hereby approve the use of decanting as a means of expediting the recovery of oil during the following spill cleanup operation:	
Date(s) Approval Effective:	
Name of Spill Incident:	
Federally Defined Response Area:	
Name of Requester:	
Location and Description of Proposed Decanting Operation: (continue on reverse, if necessary)	
The decanting operation must meet the following conditions:	
1.	All decanting should be done in a designated "Response Area" within a collection area, vessel collection well, recovery belt, weir area, or directly in front of a recovery system.
2.	Vessels employing sweep booms with recovery pumps in the apex of the boom shall decant forward of the recovery pumps.
3.	Vessels not equipped with an oil/water separator should allow retention time for oil held in internal or portable tanks before decanting commences.
4.	Containment boom must / need not (circle one) be deployed around the collection area to prevent loss of decanted oil or entrainment.
5.	Visual monitoring of the decanting shall be maintained at all times so that discharge of oil in the decanted water is detected promptly.
6.	Decanting in areas where vacuum trucks, portable tanks, or other collection systems are used for shore cleanup will be subject to the same rules as vessels.
7.	Additional conditions: (continue on reverse if necessary)
SIGNATURE: Federal OSC	Date:
SIGNATURE: State OSC	Date:
NOTE:	When verbal authorization is given, a copy of this form must be immediately expedited to the requester (must be a person of authority in the cleanup organization) to ensure that the conditions and limitations are clearly understood by all parties.

5.11 INCIDENT SECURITY PLAN

INCIDENT SECURITY PLAN (Complete form for each location requiring security)			
Incident name:			Date:
Incident location:			
Prepared by:	Position:		Date:
Indicate type of incident facility or area:			
☐ Command post ☐ Joint information center ☐ Media briefing room ☐ Staging area		☐ Offshore zone ☐ Onshore work site ☐ Other:	
Incident facility location:			
Hours security required at this location:		Daylight	Night 24 hours
Security forces at this location:			
☐ Private	☐ Local agency	☐ State agency	☐ Federal agency
Description:			
Off-site traffic control required:		☐ Yes	☐ No
If yes, describe:			
Site access controlled by:			
☐ Personnel	☐ Barricades	☐ Gates	☐ Other
Describe:			
Security forces at this location:			
☐ Check-in list	☐ Badges	☐ I.D. Card	☐ Other
Describe:			

5.11 INCIDENT SECURITY PLAN, CONTINUED

INCIDENT SECURITY PLAN, CONTINUED (Complete form for each location requiring security)			
Security forces at this location:			
☐ Personnel	☐ Locked storage	☐ 24 hr manned site	☐ Other
Describe:			
Describe EPA, USCG, FAA, or other agency implemented safety or security zones:			
Additional comments:			
List emergency personnel on-site:			
Site security manager:		Phone number:	
Local law enforcement:		Phone number:	
State law enforcement:		Phone number:	
Federal law enforcement:		Phone number:	
Incident security officer:		Phone number:	

5.12 DEMOBILIZATION PLAN

Incident name:	**Location:**
Effective date of plan:	**Effective time period of plan:**
Spill location:	**Plan prepared by:**

Demobilization procedures:

- Operations Section will determine which resources are ready for release from a specific collection site
- The Planning Section will provide guidance on release priorities and demobilization recommendations
- Information maintained by the Planning Section will be utilized to assist in the prioritization
- Each incident will require a Decontamination Area
- Decontaminated equipment will be returned to appropriate staging area for release or re-deployment
- Transports for equipment will be required if remote from staging area
- The Planning Section will document all demobilization and decontamination activities
- Equipment designated for re-assignment will be mobilized to the appropriate staging area
- The Supervisor will ensure a log is maintained documenting that proper decontamination procedures are performed for each piece of equipment
- The Operations Section will ensure that redeployed personnel receive proper rest prior to returning to duty
- The Planning Section Chief will monitor personnel redeployment activities to ensure number of hours worked is within acceptable guidelines
- The Operations Section Chief must approve the Demobilization Plan before decontamination, release, or redeployment of any resources

SECTION 6
SENSITIVE AREAS / RESPONSE TACTICS

Last Revised: August 2014

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6.1 Area Description

6.1.1 Hydrographic and Climatic Conditions

6.1.2 Physical Geographic Features

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6.1 AREA DESCRIPTION

Site specific maps and response tactics are included in **SECTION 6.7** and **SECTION 6.9**. Description of shoreline types and specific shoreline protection and cleanup techniques are presented in **FIGURE 6.2-1** and **FIGURE 6.3-2**. The strategies and response examples are guidelines and must be evaluated during the response to ensure that the selected response methods are appropriate for the situation.

6.1.1 Hydrographic and Climatic Conditions

HYDROGRAPHIC AND CLIMATIC CONDITIONS	
Wind:	West to East 5 mph
Temperature:	Normal Daily Maximum Temperature: 62.1°F, Normal Daily Minimum Temperature: 44.8°F
Tides and Currents:	Water current: 1 knot, Tides: 1.5 ft. tide
Local Visibility Problems:	None known

6.1.2 Physical Geographic Features

PHYSICAL GEOGRAPHIC FEATURES / NAVIGATION HAZARDS	
Bathymetry:	26 to 77 feet
Beach Types:	Gravel Beaches, Mixed Sand and Gravel Beaches
Type of Soil and Terrain:	Exposed Rocky Shores, Exposed Solid Man-Made Structures, Riprap, Sheltered Solid Man-Made Structures, Sheltered Tidal Flats, Sheltered Vegetated Low Banks
Buoys, Moorings or other Underwater Structures:	None known.
Navigational Hazards:	Traffic follows River navigational policies.
Traffic Patterns:	No anchoring but two–way traffic up/down stream.

6.2 SPILL CONTAINMENT / RECOVERY

Containment and recovery refer to techniques that can be employed to contain and recover terrestrial and aquatic petroleum spills.

Terrestrial spills typically result from pipeline or tank leaks. The Company is equipped with secondary containment systems for areas with non-pressurized storage tanks. Spills occurring within the secondary containment area or along pipeline and piping areas should be contained at or near their source to minimize the size of the cleanup area and quantity of soil affected.

Containment is most effective when conducted near the source of the spill, where the oil has not spread over a large area and the contained oil is of sufficient thickness to allow effective recovery and/or cleanup. The feasibility of effectively implementing containment and recovery techniques is generally dependent upon the size of the spill, available logistical resources, implementation time, and environmental conditions or nature of the terrain in the spill area.

For terrestrial spills, trenches and earthen berms or other dams are most often used to contain oil migration on the ground surface. Recovery of free oil is best achieved by using pumps, vacuum sources, and/or sorbents.

Spills that reach water spread faster than those on land. They also have greater potential to contaminate water supplies, to affect wildlife and populated areas, and to impact manmade structures and human activities. Responses on water should therefore emphasize stopping the spill, containing the oil near its source, and protecting sensitive areas before they are impacted.

Sorbents are used to remove minor on-water spills. For larger spills, booming is used to protect sensitive areas and to position oil so it can be removed with skimmers or vacuum trucks.

Due to entrainment, booming is not effective when the water moves faster than one knot or waves exceed 1.5 feet in height. Angling a boom will minimize entrainment. Using multiple, parallel booms will also improve recovery in adverse conditions. A summary of booming techniques is provided on the following page.

Containment/Diversion Berming	• Berms are constructed ahead of advancing surface spills to contain spill or divert spill to a containment area. • May cause disturbance of soils and some increased soil penetration.
Blocking/Flow-Through Dams	• Construct dam in drainage course/stream bed to block and contain flow of spill. Cover with plastic sheeting. If water is flowing, install inclined pipes during dam construction to pass water underneath dam. • May increase soil penetration.
Culvert Blocking	• Block culvert with plywood, sandbags, sediments, etc., to prevent oil from entering culvert.
Interception Trench	• Excavate ahead of advancing surface spill to contain spill and prevent further advancement; cover bottom and gradients with plastic. • May cause disturbance of soils and increased soil penetration.
Containment Booming	• Boom is deployed around free oil. • Boom may be anchored or left to move with the oil.
Diversion Booming	• Boom is deployed at an angle to the approaching oil. • Oil is diverted to a less sensitive area. • Diverted oil may cause heavy oil contamination to the shoreline downwind and down current. • Anchor points may cause minor disturbance to the environment.
Exclusion Booming	• Boom is placed around a sensitive area or across an inlet, a river mouth, a creek mouth, or a small bay. • Approaching oil is contained or deflected (diverted) by the boom. • Anchor points may cause minor disturbance to the environment.
Sorbent Booming	• Used only on quiet water with minor oil contamination. • Boom is anchored along a shoreline or used in a manner described above. • May use boom made of sorbent material or may pack sorbent material between multiple booms placed parallel to each other.

Other cleanup methods include natural recovery, manual removal/scraping, low-pressure flushing, warm water washing, and burning. Berms and dams are also used in shallow waterways to protect areas.

Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See http://www.response.restoration.noaa.gov for the latter two.)

FIGURE 6.2-1 - RESPONSE TACTICS FOR VARIOUS SHORELINES

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY

Developed/ Unforested land	• This class includes towns, cities, farms, pastures, fields, reclaimed wetlands, and other altered areas
	• Organisms and algae may be common in riprap structures and on pilings
		• Oil would percolate easily between the gravel and boulders of riprap structures
		• Oil would coat the intertidal areas of solid structures
		• Biota would be damaged or killed under heavy accumulations
			• May require high pressure spraying:
			  • To remove oil
			  • To prepare substrate for recolonization of barnacle and oyster communities
			  • For aesthetic reasons

Freshwater Flat	• Mud or organic deposits located along the shore or in shallow portions of nontidal freshwater lakes and ponds • They are exposed to low wave and current energy • They are often areas of heavy bird use	• Oil is expected to be deposited along the shoreline • Penetration of spilled oil into the water-saturated sediments of the flat will not occur • When sediments are contaminated, oil may persist for years	• These areas require high priority for protection against oil contamination • Cleanup of freshwater flats is nearly impossible because of soft substrate • Cleanup is usually not even considered because of the likelihood of mixing oil deeper into the sediments during the cleanup effort • Passive efforts, such as sorbent boom can be used to retain oil as it is naturally removed

Fresh Marsh	• Found along freshwater ponds and lakes
	• These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, needle and broad-leaved deciduous scrubs and shrubs, and broad-leaved evergreen scrubs and shrubs
	• Birds and mammals extensively use fresh marshes for feeding and breeding purposes
		• Small amounts of oil will contaminate the outer marsh fringe only; natural removal by wave action can occur within months
		• Large spills will cover more area and may persist for decades
		• Oil, particularly the heavy fuel oils, tends to adhere readily to marsh grasses
			• Marshes require the highest priority for shoreline protection
			• Natural recovery is recommended when:
			  • A small extent of marsh is affected
			  • A small amount of oil impacts the marsh fringe
			• The preferred cleanup method is a combination of low-pressure flushing, sorption, and vacuum pumping performed from boats
			• Any cleanup activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots
			• Oil wrack and other debris may be removed by hand

Swamp	• Swamps are freshwater wetlands having varying water depths with vegetation types ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include: scrubs, shrubs, evergreen trees, and hardwood forested woodlands • Birds and mammals use swamps during feeding and breeding activities	• Even small amounts of spilled oil can spread through the swamp • Large spills will cover more area and may persist for decades since water-flushing rates are low • Oil, particularly the heavy fuel oils, will adhere to swamp vegetation • Unlike mangroves, the roots of swamp forest trees are not exposed; thus, little damage to trees is expected. Any underbrush vegetation, however, would be severely impacted	• No cleanup recommended under light conditions • Under moderate to heavy accumulations, to prevent chronic oil pollution of surrounding areas placement of sorbent along fringe swamp forest (to absorb oil as it is slowly released) may be effective under close scientific supervision • Proper strategic boom placement may be highly effective in trapping large quantities of oil, thus reducing oil impact to interior swamp forests • Oil trapped by boom can be reclaimed through the use of skimmers and vacuums

FIGURE 6.2-1 - RESPONSE TACTICS FOR VARIOUS SHORELINES, CONTINUED

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Open water	• Have ocean like waves and currents • Weather changes effect on-water conditions • River mouths present problems • Thermal stratification occurs	• Most organisms are mobile enough to move out of the spill area • Aquatic birds are vulnerable to oiling • Human usage (such as transportation, water intakes, and recreational activities) may be restricted	• Booming, skimming, vacuuming, and natural recovery are the preferred cleanup methods • Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills • Cleanup options include physical herding, sorbents, and debris/vegetation removal
Large rivers	• May have varying salinities, meandering channels, and high flow rates • May include manmade structures (such as dams and locks) • Water levels vary seasonally • Floods generate high suspended sediment and debris loads	• Fish and migratory birds are of great concern • Under flood conditions, may impact highly sensitive areas in floodplains • Human usage may be high • When sediments are contaminated, oil may persist for years	• Booming, skimming, and vacuuming are the preferred cleanup methods • Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills • Cleanup options include natural recovery, physical herding, sorbents, and debris/vegetation removal
Small lakes and ponds	• Water surface can be choppy • Water levels can fluctuate widely • May completely freeze in winter • Bottom sediments near the shore can be soft and muddy • Surrounding area may include wet meadows and marshes	• Wildlife and socioeconomic areas likely to be impacted • Wind will control the oil's distribution	• Booming, skimming, vacuuming, and sorbents are the preferred cleanup methods • Should not use containment booming, vacuuming, sorbents, and skimming on gasoline spills • Cleanup options include physical herding, sorbents, and debris/vegetation removal
Small rivers and streams	• Wide range of water bodies - fast flowing streams to slow moving bayous with low muddy banks and fringed with vegetation • May include waterfalls, rapids, log jams, mid-channel bars, and islands • Weathering rates may be slower because spreading and evaporation are restricted	• Usually contaminate both banks and the water column, exposing a large number of biota to being oiled • Water intakes for drinking water, irrigation, and industrial use likely to be impacted	• Booming, skimming, vacuuming, sorbents, barriers, and berms are the preferred cleanup methods • Should not use containment booming, sorbents, vacuuming, and skimming on gasoline spills • Cleanup options include physical herding, natural recovery, debris removal, vegetation removal, and in-situ burn

6.3 SENSITIVE AREA PROTECTION

Protection refers to the implementation of techniques or methods to prevent oil from making contact with a shoreline or aquatic area that is determined to be sensitive for environmental, economic, cultural, or human use reasons. Implementation of sensitive area protection techniques must consider a number of factors such as sensitive features, priorities for areas to be protected, and potential degree of impact. In the event a product spill reaches a major area waterway, it may be necessary to protect downstream sensitive areas if it appears that local containment and recovery efforts will not be sufficient to control the entire spill. Major waterways and specific sensitive areas located downstream of the Facility are provided in **SECTION 6.7**.

FIGURE 6.3-1 - SENSITIVE AREA PROTECTION IMPLEMENTATION SEQUENCE

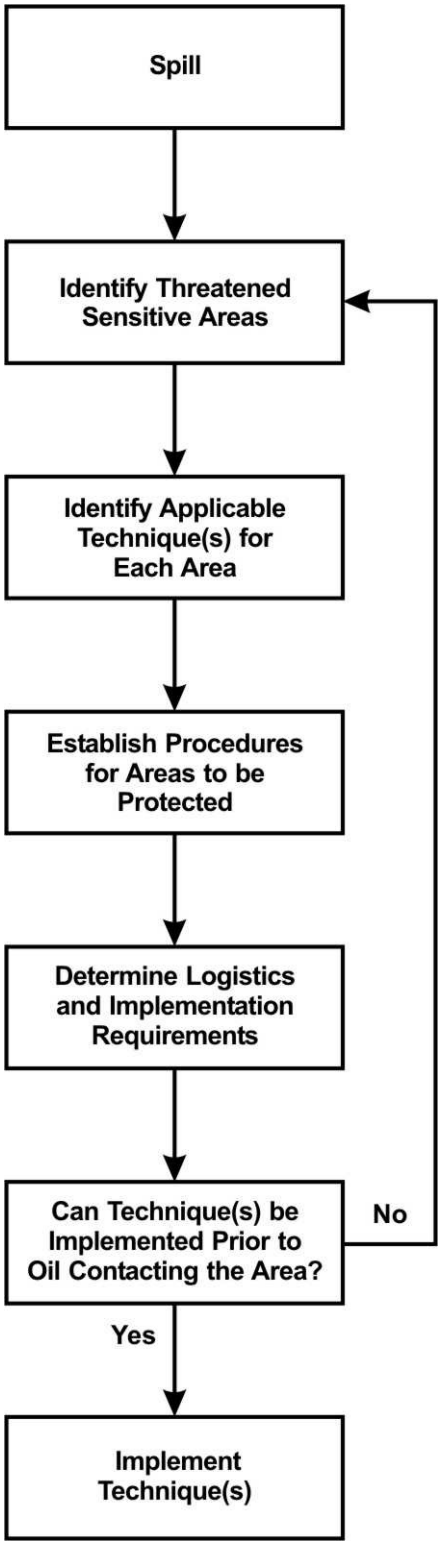


FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Removal				
1. Manual Removal	Hand tool (scrapers, wire brushes, shovels, cutting tools, wheel barrows, etc.) are used to scrape oil off surfaces or recover oiled sediments, vegetation, or debris where oil conditions are light or sporadic and/or access is limited.	Equipment misc. hand tools Personnel 10-20 workers	• Can be used on all habitat types • Light to moderate oiling conditions for stranded oil or heavy oils that have formed semi-solid to solid masses • In areas where roosting or birthing animals cannot or should not be disturbed	• Sediment disturbance and erosion potential
2. Mechanical Removal	Mechanical earthmoving equipment is used to remove oiled sediments and debris from heavily impacted areas with suitable access.	Equipment motor grader, backhoe, dump truck elevating scrapers Personnel 2-4 workers plus equipment operators	• On land, wherever surface sediments are accessible to heavy equipment • Large amounts of oiled materials	• Removes upper 2 to 12 inches of sediments
3. Sorbent Use	Sorbents are applied manually to oil accumulations, coatings, sheens, etc. to remove and recover the oil.	Equipment misc. hand tools misc. sorbents Personnel 2-10 workers	• Can be used on all habitat types • Free-floating oil close to shore or stranded on shore, secondary treatment method after gross oil removal • Sensitive areas where access is restricted	• Sediment disturbance and erosion potential • Trampling of vegetation and organisms • Foot traffic can work oil deeper into soft sediments
4. Vacuum / Pumps / Skimmers	Pumps, vacuum trucks, skimmers are used to remove oil accumulations from land or relatively thick floating layers from the water.	Equipment 1-2 50- to 100-bbl vacuum trucks w/ hoses 1-2 nozzle screens or skimmer heads Personnel 2-6 workers plus truck operators	• Can be used on all habitat types • Stranded oil on the substrate • Shoreline access points	• Typically does not remove all oil • Can remove some surface organisms, sediments, and vegetation
Washing				
5. Flooding	High volumes of water at low pressure are used to flood the oiled area to float oil off and out of sediments and back into the water or to a containment area where it can be recovered. Frequently used with flushing.	Equipment 1-5 100- to 200-gpm pumping systems 1 100-ft perforated header hose per system 1-2 200-ft containment booms per system 1 oil recovery device per system Personnel 6-8 workers per system	• All shoreline types except steep intertidal areas • Heavily oiled areas where the oil is still fluid and adheres loosely to the substrate • Where oil has penetrated into gravel sediments • Used with other washing techniques	• Can impact clean downgradient areas • Can displace some surface organisms if present • Sediments transported into water can affect water quality

FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES, CONTINUED

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Washing, Continued				
6. Flushing	Water streams at low to moderate pressure, and possibly elevated temperatures, are used to remove oil from surface or near-surface sediments through agitation and direct contact. Oil is flushed back into the water or a collection point for subsequent recovery. May also be used to flush out oil trapped by shoreline or aquatic vegetation.	Equipment 1-5 50- to 100-gpm/ 100-psi pumping systems with manifold 1-4 100-ft hoses and nozzles per system 1-2 200-ft containment booms per system 1 oil recovery device per system Personnel 8-10 workers per system	• Substrates, riprap, and solid man-made structures • Oil stranded onshore • Floating oil on shallow intertidal areas	• Can impact clean downgradient areas • Will displace many surface organisms if present • Sediments transported into water can affect water quality • Hot water can be lethal to many organisms • Can increase oil penetration depth
7. Spot (High Pressure Washing)	High pressure water streams are used to remove oil coatings from hard surfaces in small areas where flushing is ineffective. Oil is directed back into water or collection point for subsequent recovery.	Equipment 1-5 1,200- to 4,000-psi units with hose and spray wand 1-2 100-ft containment booms per unit 1 oil recovery device per unit Personnel 2-4 workers per unit	• Bedrock, man-made structures, and gravel substrates • When low-pressure flushing is not effective • Directed water jet can remove oil from hard to reach sites	• Will remove most organisms if present • Can damage surface being cleaned • Can affect clean downgradient or nearby areas
In Situ				
8. Passive Collection	Sorbent/snare booms or other sorbent materials are anchored at the waterline adjacent to heavily oiled areas to contain and recover oil as it leaches from the sediments.	Equipment 1,000-2,000 ft sorbent/snare boom 200-400 stakes or anchor systems Personnel 4-10 workers	• All shoreline types • Calm wave action • Slow removal process	• Significant amounts of oil can remain on the shoreline for extended periods of time
9. Sediment Tilling	Mechanical equipment or hand tools are used to till lightly to moderately oiled surface sediments to maximize natural degradation processes.	Equipment 1 tractor fitted with tines, dicer, ripper blades, etc. or 1-4 rototillers or 1 set of hand tools Personnel 2-10 workers	• Any sedimentary substrate that can support heavy equipment • Sand and gravel beaches with subsurface oil • Where sediment is stained or lightly oiled • Were oil is stranded above normal high waterline	• Significant amounts of oil can remain on the shoreline for extended periods of time • Disturbs surface sediments and organisms

FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES, CONTINUED

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
In Situ, Continued				
10. In Situ Bioremediation	Fertilizer is applied to lightly to moderately oiled areas to enhance microbial growth and subsequent biodegradation of oil.	Equipment 1-2 fertilizer applicators 1 tilling device if required Personnel 2-4 workers	• Any shoreline habitat type where nutrients are deficient • Moderate to heavily oiled substrates • After other techniques have been used to remove free product on lightly oiled shorelines • Where other techniques are destructive or ineffective	• Significant amounts of oil can remain on the shoreline for extended periods of time • Can disturb surface sediments and organisms
11. Log/Debris Burning	Oiled logs, driftwood, vegetation, and debris are burned to minimize material handling and disposal requirements. Material should be stacked in tall piles and fans used to ensure a hot, clean burn.	Equipment 1 set of fire control equipment 2-4 fans 1 supply of combustion promoter Personnel 2-4 workers	• On most habitats except dry muddy substrates where heat may impact the biological productivity of the habitat • Where heavily oiled items are difficult or impossible to move • Many potential applications on ice	• Heat may impact local near-surface organisms • Substantial smoke may be generated • Heat may impact adjacent vegetation
12. Natural Recovery	No action is taken and oil is allowed to degrade naturally.	None required	• All habitat types • When natural removal rates are fast • Degree of oiling is light • Access is severely restricted or dangerous to cleanup crews • When cleanup actions will do more harm than natural removal	• Oil may persist for significant periods of time • Remobilized oil or sheens may impact other areas • Higher probability of impacting wildlife

FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES, CONTINUED

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
In Situ, Continued				
13. Dispersants (All facility personnel who might be involved in an oil spill response have been informed that detergents or other surfactants are prohibited from being used on an oil spill in the water, and that dispersants can only be used with the approval of the Regional Response Team, the interagency group composed of federal and state agency representatives that coordinates oil spill responses; and Dispersants are not authorized for use in EPA Region V)	Dispersants are used to reduce the oil/water interfacial tension thereby decreasing the energy needed for the slick to break into small particles and mix into the water column. Specially formulated products containing surface-active agents are sprayed from aircraft or boats onto the slick.	Dispersants Boat or aircraft	• Water bodies with sufficient depth and volume for mixing and dilution • When the impact of the floating oil has been determined to be greater than the impact of dispersed oil on the water-column community	• Use in shallow water could affect benthic resources • May adversely impact organisms in the upper 30 feet of the water column • Some water-surface and shoreline impacts could occur
1 - Per 1000 feet of shoreline or oiled area				

Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See http://response.restoration.noaa.gov for the latter two.)

6.4 ALTERNATIVE RESPONSE STRATEGIES

While mechanical cleanup and recovery is always the initial and primary response tool, other response technologies are considered by the Region X RRT and Northwest Area Committee to be integral components of effective spill response that should to be available for use, as appropriate, in a timely and efficient manner. The use of response technologies such as in-situ burning, dispersants, and other oil spill cleanup agents should be considered when the environmental benefit of their use is expected to outweigh adverse effects.

As required by Section 300.905 of the NCP, in order for a FOSC to authorize the use of a dispersing, surface washing, surface collecting or bioremediation agent, it must be listed on the NCP Product Schedule. Burning agents are not listed on the NCP Product Schedule. The U.S. EPA maintains the NCP Product Schedule and it can be found at http://www.epa.gov/oilspill/ncp.

6.4.1 Dispersants

Dispersants - Applying chemical agents, usually by aircraft, to aid in breaking up surface slicks and dispursing oil within the water column. (See Section 4610 of the NWAC for more policy on dispersant use)

Areas within the Region X RRT and Northwest Area Committee area of responsibility fall into three different zones with respect to dispersant use: a pre-approval zone, case-by-case approval zones, or no dispersant use zones (See NWAC Section 4610 "Region X RRT Dispersant Use Zones Summary Table").

Within a designated pre-approval zone, the FOSC may authorize the use of dispersants without further concurrence or consultation with the RRT. The FOSC will determine whether to authorize the use of dispersants through the information gathering and decision-making process outlined in the "FOSC Dispersant Authorization Checklist" (NWACP Section 4611).

The Dispersant **Pre-Approval Zone** is as follows:

- Marine waters 3 to 200 nautical miles from the coastline or an island shoreline ***except*** for waters designated as a part of a National Marine Sanctuary and the Makah Tribe Usual and Accustom marine area or waters within three miles of the border of the Country of Canada, the State of California, or the Makah Tribe Usual and Accustom marine area.

The Dispersant **Case-by-Case Approval Zones** are as follows:

- All marine waters that are both within 3 nautical miles from the coastline or an island shoreline and greater than 10 fathoms (60 feet) in depth.
- Waters designated as a part of a National Marine Sanctuary and waters that are part of the Makah Tribe Usual and Accustom marine area which are also greater than 10 fathoms (60 feet) in depth.
- Waters of the Strait of Juan de Fuca and North Puget Sound from Point Wilson to Admiralty Head and north, and greater than 10 fathoms (60 feet) in depth.
- Marine waters within 3 miles of the borders of the State of California, Makah Tribe Usual and Accustom marine area, and the country of Canada. In considering the use of dispersants within 3 miles of border of State of California, the Region X RRT will consult with the Region IX RRT. In consideration of the use of dispersants within 3 miles of the Makah Tribe Usual and Accustom marine area, the Region X RRT will consult with the Makah Tribal government. In considering the use of dispersants within 3 miles of the International border with Canada, the Region X RRT will consult with the Joint Coastal Pollution Response Team (Coastal JRT) comprised of representatives of the U.S. and Canadian governments.

The **No Dispersant Use Zones** are as follows:

- Marine waters that are both less than three nautical miles from the coastline and less than or equal to 10 fathoms (60 feet) in depth.
- Marine waters south of a line drawn between Point Wilson (48° 08' 41" N, 122° 45' 19" W) and Admiralty Head (48° 09' 20" N, 122° 40' 70" W).
- Freshwater environments.

The Northwest Area Contingency Plan Checklist for gathering dispersant use information is provided in **SECTION 5.7**.

Portland facility is not in the Northwest Area Contingency Plan (NWACP) pre-approved dispersants usage area. Dispersants will not be used unless it is directed by a Unified Command as part of a response. The facility is committed to following the dispersant decision making process established in Section 9406 of the NWACP.

6.4.2 Bioremediation

The use of bioremediation in open water is an unproven technology that currently shows little or no promise of removing significant quantities of oil from the surface of the water prior to shoreline impact or natural dispersion. Bioremediation by nutrient enhancement or seeding of biodegrading organisms is therefore not allowed on the surface of open water. This policy can be reviewed by the RRT if there is new and significant evidence that bioremediation can be a significant factor in oil removal on open water.

Bioremediation of Shorelines
Seeding of exotic organisms for pollution response is prohibited in Response Region Ten. This is due to unproven efficacy of such procedures and the unknown ecological effects resulting from the implementation of such.

Bioremediation is an effective technique for the encouragement of oil biodegradation on some contaminated shorelines. Nonetheless, this strategy is unlikely to lead to rapid decontamination of beaches. Consequently, bioremediation should be used as the primary treatment only when oil concentrations are low (less than 15 grams of oil for every kilogram of sediment) and conventional forms of cleanup (heavy equipment use or manual cleaning) are likely to do more damage than good. Bioremediation should be considered as a polishing technique after gross contamination is removed by conventional means.

The use of bioremediation for oil spill clean up will be allowed only on a case-by-case basis.

6.4.3 In-Situ Burn

The purpose of the policy is to define the conditions under which burning may occur on a pre-approved or case-by-case basis and define conditions under which burning will not be allowed. The complete policy defines the procedure for arriving at the decision to burn or not to burn, describes the regulatory and statutory framework, and provides background information on logistics, environmental impacts, health and safety, and monitoring. The policy applies to all marine waters as well as inland areas covered by the Northwest Area Plan. This section summarizes key sections of the policy.

It is the policy of the Northwest Area Committee to use, and in certain cases, encourage in-situ burning, provided that requirements specified herein have been met. A primary consideration in the decision to burn is the protection and safety of human life. The authority to approve a burn rests with the Unified Command, who must determine that an application to burn conforms to these guidelines. The decision to burn or not burn must be made expeditiously.

Pre-approval areas are defined as those areas which are more than three miles from population. All other areas will be considered on a case-by-case basis. Monitoring and sampling will be conducted where there is the potential for people to be exposed to the smoke. As general guidance, people should not be exposed to small particles (PM-10) in concentrations that exceed 150 micrograms per cubic meter of air averaged over one hour. The concentrations should never exceed 150 micrograms per cubic meter averaged over 24 hours.

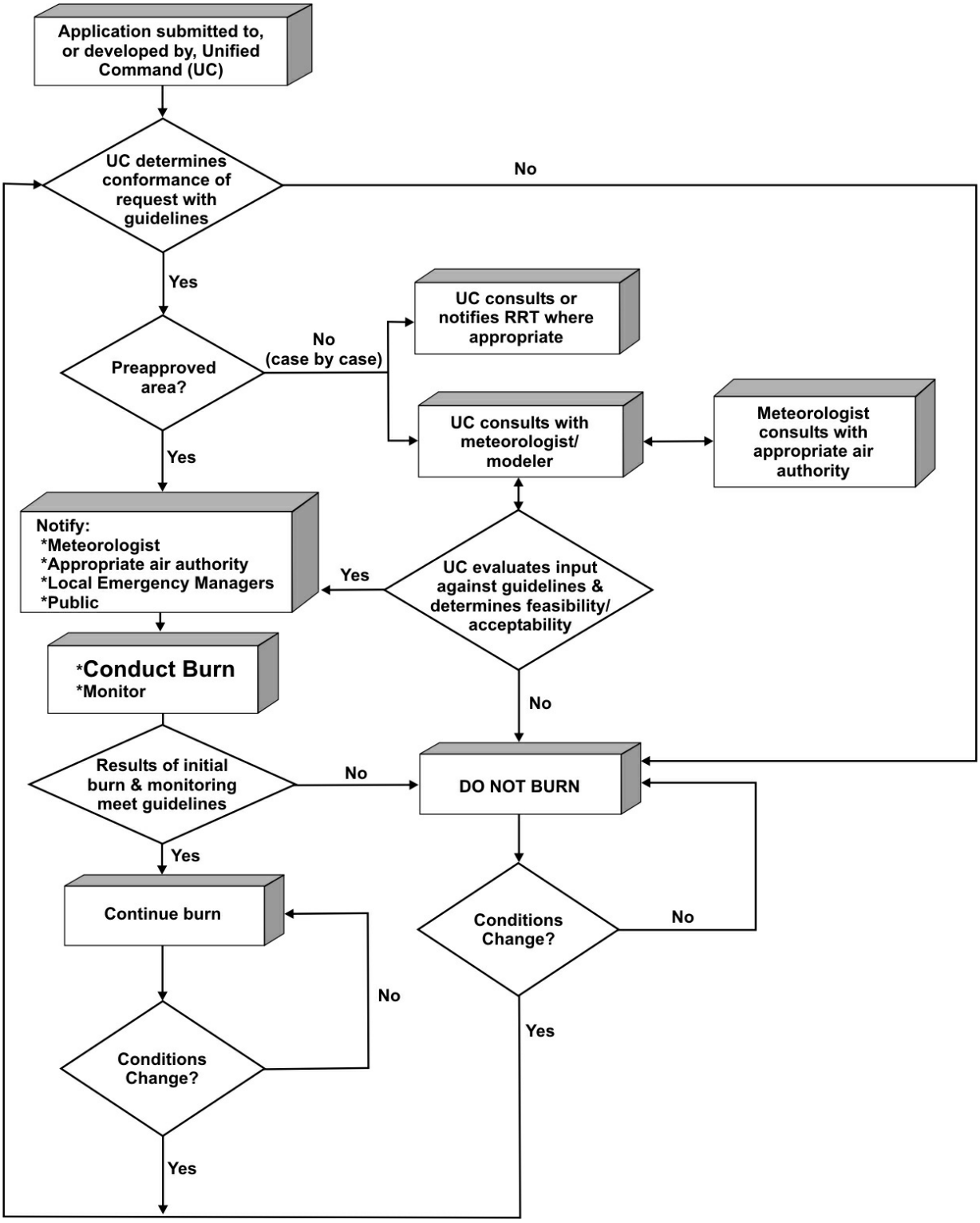
Authorization Procedures

These guidelines provide a common decision-making process to evaluate the appropriateness of using in-situ burning during a spill response. The process is based on the premise that a rapid decision is essential if in-situ burning is ever to be used since oil emulsifies (becomes mixed with water) and is more difficult to ignite as time goes on. Therefore, the fewest number of decision-makers as possible are involved in deciding whether or not to burn.

Under these guidelines, authorization to use in-situ burning rests with the Unified Command (UC). The UC consists of federal, state, and responsible party on-scene coordinators as well as local and tribal on-scene coordinators, as appropriate. The UC, as part of the Incident Command System (ICS), is responsible for overseeing the entire response effort, which includes the decision to use in-situ burning. The decision process is greatly expedited by the use of the unified command structure, by the establishment of a single application (see attached checklist and worksheet located after the decision process flowchart), and mutually agreed upon operational controls. **FIGURE 6.4-1** summarizes the in-situ burn decision process.

Refer to NWAC Section 4621 for In-Situ Burn Policy detail.

FIGURE 6.4-1 - IN-SITU BURN DECISION PROCESS



6.4.4 Decanting

When oil is spilled on the water, mechanical recovery of the oil is the principal approved method of responding. However, the mechanical recovery process and associated systems necessarily involve placing vessels and machinery in a floating oil environment. Incidental returns of oil into the response area, such as oil that falls back into the recovery area from vessels and machinery that are immersed and working in the oil, are an inevitable part of the mechanical recovery process. Similarly, separation or "decanting" of water from recovered oil and return of excess water into the response area can be vital to the efficient mechanical recovery of spilled oil because it allows maximum use of limited storage capacity, thereby increasing recovery operations.

This practice is currently recognized as a necessary and routine part of response operations that is appropriately addressed in Area Contingency Plans. (See National Contingency Plan Revisions, 59 F.R. 47401, Sept. 15, 1994.) In addition, some activities, such as those associated with oil recovery vessels, small boats, and equipment cleaning operations, may result in incidental discharges. These activities may be necessary to facilitate response operations on a continuing basis, and all of these activities are considered to be “incidental discharges.”

Decanting Policy

This policy addresses "incidental discharges" associated with spill response activities. "Incidental discharge" means the release of oil and/or oily water within the response area in or proximate to the area in which oil recovery activities are taking place during and attendant to oil spill response activities.

Incidental discharges include, but are not limited to, the decanting of oily water, oil and oily water returns associated with runoff from vessels and equipment operating in an oiled environment, and the wash down of vessels, facilities, and equipment used in the response. "Incidental discharges" as addressed by this policy do not require additional permits and do not constitute a prohibited discharge. See 33 CFR 153.301, 40 CFR 300, RCW 90.56.320(1), WAC 173-201A-110, ORS 468b.305 (2)(b).

The following criteria should be considered by the FOSC and/or SOSC in determining whether to approve decanting unless circumstances dictate otherwise:

- All decanting should be done in a designated “Response Area” within a collection area, vessel collection well, recovery belt, weir area, or directly in front of a recovery system.
- Vessels employing sweep booms with recovery pumps in the apex of the boom should decant forward of the recovery pump.
- All vessels, motor vehicles, and other equipment not equipped with an oil/water separator should allow retention time for oil held in internal or portable tanks before decanting commences.
- When deemed necessary by the FOSC and/or SOSC or the response contractor a containment boom will be deployed around the collection area to minimize loss of decanted oil or entrainment.
- Visual monitoring of the decanting area shall be maintained so that discharge of oil in the decanted water is detected promptly.
- Decanting in areas where vacuum trucks, portable tanks, or other collection systems are used for shore cleanup will be subject to the same rules as vessels.

The response contractor or responsible party will seek approval from the FOSC and/or SOSC prior to decanting by presenting the Unified Command with a brief description of the area for which decanting approval is sought, the decanting process proposed, the prevailing conditions (wind, weather, etc.) and protective measures proposed to be implemented. The FOSC and/or SOSC will review such requests promptly and render a decision as quickly as possible. FOSC authorization is required in all cases and SOSC authorization is required for decanting activities in state waters.

The FOSC and/or SOSC will review and provide directions and authorization as appropriate to requests to wash down vessels, facilities, and equipment to facilitate response activities.

Other activities related to possible oil discharges associated with an oil spill event, such as actions to save a vessel or protect human life, which may include such actions as pumping bilges on a sinking vessel are not covered by this policy.

6.5 WILDLIFE PROTECTION AND REHABILITATION

- The Company will support wildlife protection and rehabilitation efforts during the response, and assist in these efforts in alignment with local, state, and federal authorities and certified contractors.
- Company personnel will not attempt to rescue or clean affected wildlife, because such actions may cause harm to the individuals or may place the animals at further risk.
- Federal and state agencies responsible for wildlife capture and rehabilitation will typically coordinate capturing and rehabilitating oiled wildlife; a list of these agencies is included in **FIGURE 3.1-6.**
- Wildlife rehabilitation specialists may be utilized to assist in capturing and rehabilitating oiled animals as well as deterring unaffected animals away from the spill site.

6.6 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Albatross, short-tailed	*Phoebastria (=Diomedea) albatrus*	Pelagic; often in regions of high productivity	E	Oregon
Butterfly, Fenders blue	*Icaricia icarioides fenderi*	Pine barrens and oak savannas on sandy soils	E	Oregon
Butterfly, Oregon silverspot	*Speyeria zerene hippolyta*	Coastal salt spray meadows, stabilized dunes, montane meadows	T	Oregon
Catchfly, Spaldings	*Silene spaldingii*	Grasslands intermingled with ponderosa pine woodlands	T	Oregon
Checker-mallow, Nelsons	*Sidalcea nelsoniana*	Moist, open ground, prairie merges with deciduous woodland	T	Oregon
Chub, Borax Lake	*Gila boraxobius*	Borax Lake, with its highly variable thermal springs	E	Oregon
Chub, Hutton tui	*Gila bicolor ssp.*	Springs in the Alkali subbasin	T	Oregon
Chub, Oregon	*Oregonichthys crameri*	Slow-moving pools, sloughs, backwaters, ponds, and reservoirs	T	Oregon
Dace, Foskett speckled	*Rhinichthys osculus ssp.*	Foskett Spring and its outflow; very small springholes and rivulets	T	Oregon
Daisy, Willamette	*Erigeron decumbens var. decumbens*	Heavy soils in seasonally wet native or dry upland prairie grasslands	E	Oregon
Deer, Columbian white-tailed Columbia River DPS	*Odocoileus virginianus leucurus*	Farmlands, brushy areas, woods, and suburbs and gardens	E	Oregon
Desert-parsley, Bradshaws	*Lomatium bradshawii*	Open, clay soil bottomland with seasonal standing water	E	Oregon
Fairy shrimp, vernal pool	*Branchinecta lynchi*	Ephemeral water of swales and vernal pools	T	Oregon
Four-oclock, MacFarlanes	*Mirabilis macfarlanei*	Gentle to very steep, open river canyon slopes	T	Oregon
Fritillary, Gentners	*Fritillaria gentneri*	Open, somewhat dry, low elevation, mixed oak-madrone woodlands	E	Oregon
Howellia, water	*Howellia aquatilis*	Bottom sediments of ponds and sloughs	T	Oregon
Lily, Western	*Lilium occidentale*	Pacific coastal wetlands	E	Oregon

T - Threatened
E - Endangered

6.6 ENDANGERED AND THREATENED SPECIES BY STATE, CONTINUED

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Lomatium, Cooks	*Lomatium cookii*	Bottoms of vernal pools or the tops of the mounds	E	Oregon
Lupine, Kincaids	*Lupinus sulphureus (=oreganus) ssp. kincaidii (=var. kincaidii)*	Remnant upland and wetland prairies	T	Oregon
Lynx, Canada (Contiguous U.S. DPS)	*Lynx canadensis*	Mature forests with dense undergrowth	T	Oregon
Meadowfoam, large flowered wooly	*Limnanthes floccosa grandiflora*	Vernal pools	E	Oregon
Milk-vetch, Applegates	*Astragalus applegatei*	Flat seasonally moist remnants of alkaline floodplain grasslands of the Klamath Basin	E	Oregon
Murrelet, marbled CA, OR, WA	*Brachyramphus marmoratus*	Coastal, old-growth forests of the Pacific Northwest	T	Oregon
Owl, northern spotted	*Strix occidentalis caurina*	Forest, woodlands	T	Oregon
Paintbrush, golden	*Castilleja levisecta*	Open grasslands	T	Oregon
Plover, western snowy Pacific coastal pop.	*Charadrius alexandrinus nivosus*	Coastal wetlands and coastal dune	T	Oregon
Popcornflower, rough	*Plagiobothrys hirtus*	Open, moist, poorly drained clay soils	E	Oregon
Rock-cress, McDonalds	*Arabis mcdonaldiana*	Rocky serpentine areas	E	Oregon
Salmon, chinook fall Snake R.	*Oncorhynchus (=Salmo) tshawytscha*	Mainly oceanic, gravel riffles in main streams	T	Oregon
Salmon, chinook lower Columbia R.	*Oncorhynchus (=Salmo) tshawytscha*	Mainly oceanic, gravel riffles in main streams	T	Oregon
Salmon, chinook spring/summer Snake R.	*Oncorhynchus (=Salmo) tshawytscha*	Mainly oceanic, gravel riffles in main streams	T	Oregon
Salmon, chinook upper Willamette R.	*Oncorhynchus (=Salmo) tshawytscha*	Mainly oceanic, gravel riffles in main streams	T	Oregon
Salmon, chum Columbia R.	*Oncorhynchus (=Salmo) keta*	Coastal waters; enters streams to spawn	T	Oregon
Salmon, coho OR, CA pop.	*Oncorhynchus (=Salmo) kisutch*	Inshore waters at mid-depths or near surface; spawns in coastal streams, sometimes far inland	T	Oregon

T - Threatened
E - Endangered

6.6 ENDANGERED AND THREATENED SPECIES BY STATE, CONTINUED

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Salmon, sockeye U.S.A. (Snake River, ID stock wherever found.)	*Oncorhynchus (=Salmo) nerka*	Adult sockeye oceanic; kokanee do best in high, cold, large mountain lakes	E	Oregon
Sea turtle, green except where endangered	*Chelonia mydas*	Coasts, open sea	T	Oregon
Sea turtle, leatherback	*Dermochelys coriacea*	Warm sands of tropical beaches	E	Oregon
Sea turtle, loggerhead	*Caretta caretta*	Estuaries, coastal streams and salt marshes	T	Oregon
Sea-lion, Steller eastern pop.	*Eumetopias jubatus*	Coastal waters near shore and over the continental slope	T	Oregon
Steelhead lower Columbia R.	*Oncorhynchus (=Salmo) mykiss*	Small headwater streams, large rivers, lakes, or reservoirs	T	Oregon
Steelhead middle Columbia R.	*Oncorhynchus (=Salmo) mykiss*	Small headwater streams, large rivers, lakes, or reservoirs	T	Oregon
Steelhead Snake R. Basin	*Oncorhynchus (=Salmo) mykiss*	Small headwater streams, large rivers, lakes, or reservoirs	T	Oregon
Steelhead upper Willamette R.	*Oncorhynchus (=Salmo) mykiss*	Small headwater streams, large rivers, lakes, or reservoirs	T	Oregon
Sturgeon, North American green U.S.A. (CA) Southern Distinct Population Segment	*Acipenser medirostris*	Freshwater and Saltwater	T	Oregon
Sucker, Lost River	*Deltistes luxatus*	Deep water lakes and impoundments; deep pools of small to medium rivers	E	Oregon
Sucker, Modoc	*Catostomus microps*	Shallow mud-bottomed pools of cool creeks	E	Oregon
Sucker, shortnose	*Chasmistes brevirostris*	Open waters of large shallow lakes and river channels	E	Oregon
Sucker, Warner	*Catostomus warnerensis*	Spawns over silt-free gravel substrate in low gradient streams	T	Oregon
Thelypody, Howells spectacular	*Thelypodium howellii spectabilis*	Moist, moderately well-drained, somewhat alkaline meadows	T	Oregon
Trout, bull U.S.A., conterminous, lower 48 states	*Salvelinus confluentus*	Bottom of deep pools in cold rivers and large tributary streams	T	Oregon
Trout, Lahontan cutthroat	*Oncorhynchus clarki henshawi*	Inshore marine and estuarine waters; lakes; coastal, inland, and alpine streams	T	Oregon

T - Threatened
E - Endangered

6.6 ENDANGERED AND THREATENED SPECIES BY STATE, CONTINUED

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Whale, humpback	*Megaptera novaeangliae*	Surface of the ocean	E	Oregon
Whale, killer Southern Resident DPS	*Orcinus orca*	Open ocean and coastal waters	E	Oregon
Wire-lettuce, Malheur	*Stephanomeria malheurensis*	Broad hilltop composed of volcanic tuff	E	Oregon
Wolf, gray Western Distinct Population Segment	*Canis lupus*	Open tundra and forests	E	Oregon
		For a continually updated list of Endangered and Threatened Species in Washington, visit https://wdfw.wa.gov/species-habitats/at-risk/listed		Washington

T - Threatened
E - Endangered

6.7 VULNERABILITY ANALYSIS (DETAILED)

VULNERABILITY ANALYSIS (DETAILED)
Water Intakes:
Spills from the terminal entering the Willamette River could pose a potential threat to water intakes downstream of the terminal. Water intakes along the Willamette River are used for public, private and industrial water supplies. Agencies associated with these intakes should be notified and these areas of the river should be given special attention if a spill enters the river. The Willamette River, Multnomah Channel, Columbia River and adjacent sloughs have water intakes that could be impacted.
Schools:
Miscellaneous primary and secondary schools are located along the river route that the spill would follow, but not close enough to the river to expect significant impact. Any evacuation efforts for these schools will be coordinated with the local emergency assistance agencies (police department, fire department, etc.).
Medical Facilities:
There are no medical facilities (hospitals, clinics) located within the vicinity that would be impacted by the spill.
Residential Areas:
Residential population is thinly scattered throughout the area adjacent to the Facility and downstream along the Willamette and Columbia Rivers and the Multnomah Channel. Farm properties are predominant on Sauvie Island and along the river. Any evacuation efforts for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.).

6.7 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Businesses:
The immediate area surrounding the Facility is for the most part commercialized. It is unlikely that such businesses would be directly impacted by the spill, although they could be indirectly impacted by interruption of river traffic and perhaps some limited interruptions of highway and rail traffic. Any evacuation efforts and any highway and rail closures for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). The USCG and the Port of Portland authorities would control river traffic.
Wetlands or Other Sensitive Environments:
The area surrounding the Facility and the downstream areas of potential impact are highly populated with fish and wildlife and wetlands and other sensitive environments are numerous. During a response situation the USFWS and applicable state agencies will be contacted for information regarding wetlands and other sensitive environments. Working with those agencies and using the several reference documents that address the treatment of such environments during a spill response, the Company will: Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge. Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.

6.7 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Fish and Wildlife:
The area surrounding the Facility and the downstream areas of potential impact are highly populated with fish and wildlife and wetlands and other sensitive environments are numerous. During a response situation the USFWS and applicable state agencies will be contacted for information regarding wetlands and other sensitive environments. Working with those agencies and using the several reference documents that address the treatment of such environments during a spill response, the Company will: Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge. Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.

6.7 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Lakes and Streams:
Waterways (rivers, creeks, sloughs) that may be potentially impacted by a discharge originating at the Facility are identified on the maps. During a response situation the USFWS and applicable state agencies will be contacted for information regarding wetlands and other sensitive environments. Working with those agencies and using the several reference documents that address the treatment of such environments during a spill response, the Company will: Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge. Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.
Endangered Flora and Fauna:
Endangered flora and fauna that may be potentially impacted by a discharge originating at the Facility are identified in this plan on maps.
Recreational Areas:
The recreational areas that may be potentially impacted by a discharge originating at the Facility are more fully identified on the maps.

6.7 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Transportation Routes (Air, Water, Land):
There are various public roadways and waterways which may be potentially effected by a discharge originating from the Facility. The local emergency assistance agencies (police department, fire department, etc.) and the U.S. Coast Guard and Port of Portland authorities (as applicable) would be contacted for traffic control in the impacted areas.
Utilities:
Some power companies operate power plants and other facilities in the areas potentially impacted by a discharge from the Facility. They would be advised in order to determine possible impact.
Other Applicable Areas:
The Willamette and Columbia Rivers and connecting waterways are bordered by numerous dock facilities, other commercial facilities, and recreational/public use areas. Most of the commercial facilities are up-river along the Willamette where the spill trajectory is possible but unlikely. Any evacuation efforts necessary for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.), State Police, U.S. Coast Guard, and other agencies as the situation demands. The Facility is located within Northwest Area Contingency Plan coverage. Response tactics for this area is addressed in the NWAC Lower Columbia River GRP available in the link below. (http://www.ecy.wa.gov/programs/spills/preparedness/GRP/ColumbiaRiver/LowerColumbiaRiver.htm) Shoreline classifications and accesses are included in Lower Columbia River GRP. Additional boat ramp information is available in Appendix G.

6.8 TACTICAL OVERVIEW MAP

No Files Uploaded

6.9 TACTICAL PLAN INDEX

SITE NAME	TACTICAL NAME

6.10 TACTICAL PLANS

No Tactical Sites have been uploaded.

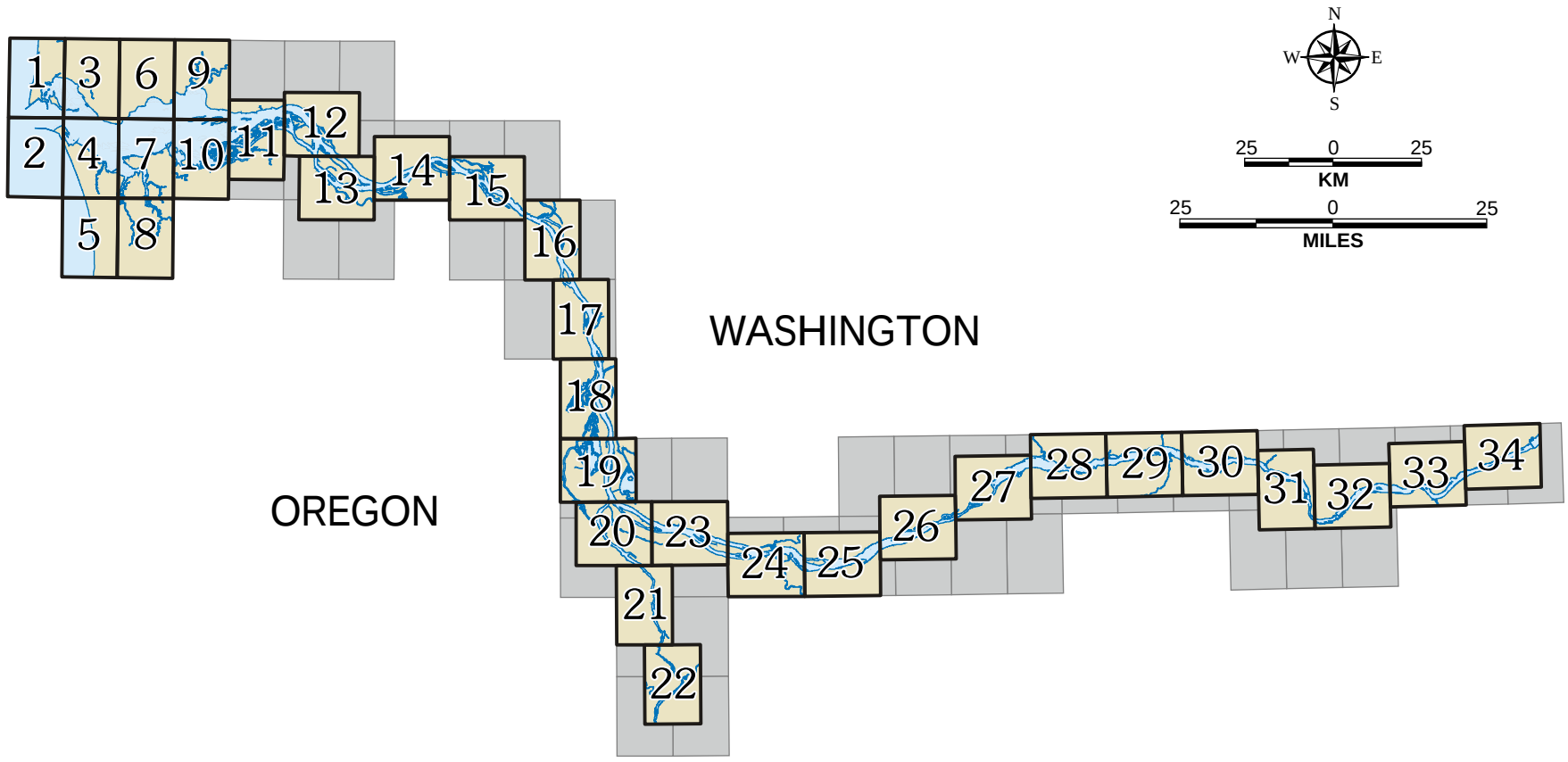
6.11 SENSITIVITY MAPS

Click to view/print Index

Sensitivity of Estuarine and Riverine Environments and Wildlife to Spilled Oil

COLUMBIA RIVER

Atlas



Supported by:

National Oceanic and Atmospheric Administration

National Ocean Service

Coastal Storms Initiative

Office of Response and Restoration
Hazardous Materials Response Division
Seattle, Washington

In cooperation with:

U.S. Fish and Wildlife Service

NOAA Fisheries

State of Oregon

State of Washington

The Columbia River ESI was supported with funds from NOAA's Coastal Storms Initiative. The Coastal Storms Initiative is a nationwide effort led by the National Oceanic and Atmospheric Administration to lessen the impacts to coastal communities from storms.

JUNE 2004

6.11 SENSITIVITY MAPS, CONTINUED

Click to view/print Introduction

ENVIRONMENTAL SENSITIVITY INDEX: COLUMBIA RIVER

INTRODUCTION

Environmental Sensitivity Index (ESI) maps have been developed for the estuarine and riverine areas of the Columbia River up to the John Day Dam and the Willamette River up to the locks at Oregon City. The ESI maps are a compilation of information from three main categories: shoreline habitats; sensitive biological resources; and human-use resources.

The individual map pages in this atlas are divided according to the U.S. Geological Survey (USGS) topographic quadrangle index. Black and white scanned images of these maps are used as a backdrop for each map page in the atlas. The name and date on the bottom right of each map page refer to the corresponding USGS quadrangle and its publication or latest photorevision date.

SHORELINE HABITAT MAPPING

The shoreline habitats of the Columbia River from the jetties up to the John Day Dam and the Willamette River from its mouth up to Oregon City were mapped during overflights and ground surveys conducted by an experienced coastal geologist in October 2003. The overflights were conducted at elevations of 400-600 feet and slow air speed. During this work, the ESI shoreline classification was denoted directly onto the shoreline depicted on 1:24,000-scale USGS topographic maps. Where appropriate, revisions to the existing shoreline were made and, where necessary, multiple habitats were described for each shoreline segment.

To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated:

1) Shoreline type (substrate, grain size, tidal elevation, origin)
2) Exposure to wave and tidal energy
3) Biological productivity and sensitivity
4) Ease of cleanup

Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affect the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury and ease of cleanup of spilled oil are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking. The list below includes the shoreline habitats delineated for the Columbia River region, presented in order of increasing sensitivity to spilled oil.

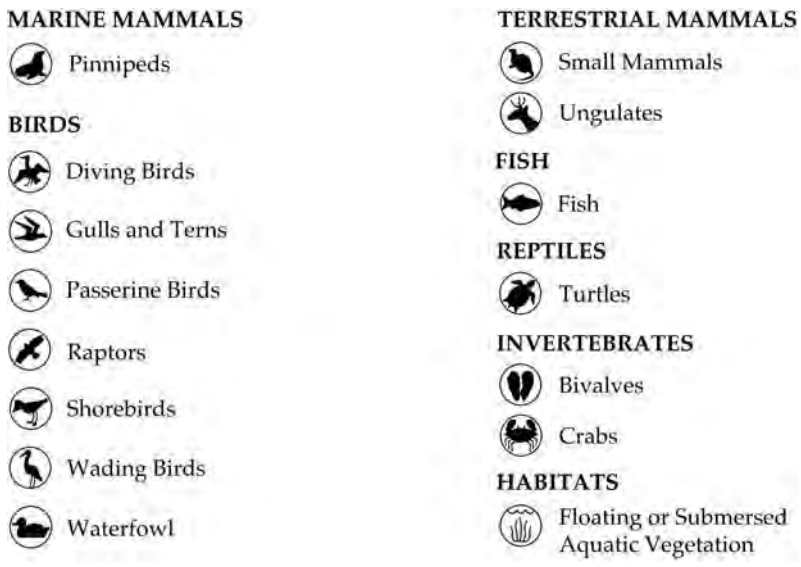
1A) Exposed Rocky Shores
1B) Exposed, Solid Man-made Structures
2A) Exposed Wave-cut Platforms in Bedrock
3A) Fine- to Medium-grained Sand Beaches
3B) Scarps and Steep Slopes in Sand
4) Coarse-grained Sand Beaches
5) Mixed Sand and Gravel Beaches
6A) Gravel Beaches
6B) Riprap
7) Exposed Tidal Flats
8A) Sheltered Rocky Shores
8B) Sheltered, Solid Man-made Structures
8C) Sheltered Riprap
9A) Sheltered Tidal Flats
9B) Sheltered, Vegetated Low Banks
10A) Salt- and Brackish-water Marshes
10B) Freshwater Marshes
10C) Swamps
10D) Scrub-Shrub Wetlands

All of the shoreline habitats are described on pages 7-13 in terms of their physical description, predicted oil behavior, and response considerations.

Wide intertidal habitats, such as rock platforms and tidal flats, were mapped as polygons where appropriate. Only the outer edge of wetland habitats was mapped during the overflights. To provide information on the areal extent of wetlands along the river, wetland polgyons derived from the U.S. Fish and Wildlife Service's National Wetlands Inventory were plotted on the maps. These polygonal wetland types were not checked or edited extensively as a part of this project.

SENSITIVE BIOLOGICAL RESOURCES

Biological information presented in this atlas was collected, compiled, and reviewed with the assistance of biologists and resource experts from Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), Oregon State University (OSU), Washington Department of Ecology (WADOE), Washington State Parks (WSP), Oregon State Parks (OSP), Department of the Interior (DOI), Bureau of Land Management (BLM), and the Lower Columbia River Estuary Program (LCREP). Information collected and depicted on these maps denotes the key biological resources that are most likely at risk in the event of an oil spill. Seven major categories of biological resources are included in this atlas: terrestrial mammals, marine mammals, birds, reptiles, fish, invertebrates, and benthic habitats/rare plants.



TERRESTRIAL MAMMALS

Terrestrial mammals depicted in this atlas include one endangered species as well as several common species. The federally endangered Columbian white-tailed deer (*Odeocoileus virginianus leucurus*) is a prevalent terrestrial mammal in Columbia River estuary. This sub-specie of deer inhabits low-lying mainland areas and islands long the Columbia River from about Skamakowa, Washington, to Port Westward, Oregon. Habitat loss and low productivity have severely reduced the number of deer present and population numbers now range from about 300-500 individuals. The majority of the remaining population inhabits the Julia Butler Hansen National Wildlife Refuge (NWR), which is located in the eastern reaches of the estuary. In addition, areas with highly abundant populations of semi-aquatic fur-bearing mammals, such as the river otter, are also shown on the maps. River otter, mink, beaver, and nutria distributions are based on expert opinion (2004), USFWS maps (1984), and Oil Spill Recovery Plan maps (1979). These distributions are depicted mainly in aquatic habitats such as in or along certain rivers or on islands within the Columbia River mainstem.

The expert contact for the Columbian white-tailed deer is Alan Clark (USFWS) at the Julia Butler Hansen NWR (360-795-3915).

Terrestrial mammals are displayed on the maps as polygons with a brown vertical hatch pattern, or as point occurrences indicated by a small brown dot. In cases where multiple resource types inhabit the same polygon (such as mammals and birds), a black hatch, multi-group pattern is used rather than a brown hatch pattern. A brown icon with a small mammal silhouette is used to indicate the presence of terrestrial mammals and is associated with all polygons or points containing these resources. In the case of the Columbian white-tailed deer, a brown icon with a deer silhouette is used in association with points or polygons containing this species.

The RAR# under the icon (or icon group) on the map references a table on the reverse side of the map. In this table, the first column gives the species name. The second column indicates whether the species is listed as a species of special concern (C), threatened (T), or endangered (E) on either the state (S) and/or federal (F) lists. The next column provides an estimate of the concentration of the species at the site. Concentrations for terrestrial mammals were represented with either an estimate of individuals present or, in the absence of specific numbers, by using a descriptive term, such as "present" or "high". "Present" is used for endangered or rare species that were known to occur at a site where more detailed concentration information was not available. Descriptive concentrations are based on the opinion of local resource managers or experts concerning relative concentrations within the study area. In many cases, concentration information is not well known. Note that concentration should not be interpreted as the "level of concern" or "importance" associated with a certain site or particular resource.

The seasonality for each species or resource is shown in the next twelve columns, corresponding to the months of the year. If a species is present at a location in a particular month, an "X" is placed in the month column.

MARINE MAMMALS

Marine mammals depicted in the Columbia River atlas include Steller sea lions (federally threatened), California sea lions, and harbor seals. Seal areas shown on the maps represent major haul-out sites and pupping areas. Of the three pinniped species occurring in the Columbia River, only the harbor seal breeds in the estuary and can be considered a resident. The other two species, California sea lion and Steller sea lion, are migratory and use the estuary seasonally. Haul-out sites for all species have been indicated on the maps as either a point or a polygon. In addition to haul-out areas shown on the maps, harbor seals and California sea lions may be present throughout the estuary and may venture further up river and into some of the tributaries. Harbor seal feeding concentrations are often located in waters adjacent to major haul-out sites, but occur in other areas as well. Information on marine mammal distribution and abundance was provided by ODFW staff and WDFW priority habitat digital data. Though not considered threatened or endangered species, it should be noted that harbor seals and California sea lions are legally protected by the Marine Mammal Protection Act.

Expert contacts for marine mammals in the Columbia River are Robin Brown (ODFW, Corvallis, OR), 541/757-4186; Matthew Tennis (ODFW, Astoria, OR); and Brent Norberg (NOAA, Seattle, WA), 206/526-6733.

The species that were mapped are described below:

Steller sea lion - (Federal threatened, listed 1990)

Steller sea lions are migratory inhabitants of the Columbia River and can be found primarily on the South Jetty in the mouth of the estuary. Most of the Steller sea lions utilizing this haul out are females and young. Relatively few large males are present. Maximum densities of Steller sea lions (80-100) occur in January and through the winter and spring. Few Stellar sea lions are present in the summer and fall.

California sea lion

California sea lions utilize the rocky tip at the South Jetty in the mouth of the Columbia River as their primary haul-out site. They may also be found throughout the estuary and during the winter they are numerous in the upriver portion of the estuary. The use of the river from January through March corresponds to the annual run of smelt, lamprey, and steelhead.

Harbor seal

The harbor seal is the only permanent resident of the Columbia River estuary. Populations fluctuate from about 500 in the summer to 1,500 in the winter with abundances being greatest in the winter and mid-spring. Harbor seals tend to utilize sand bars and rocky islands as haul-out sites and may be present at Desdemona, Taylor, and Miller sands as well as several other locations at low tide.

Marine mammal areas are displayed on the maps as polygons with a brown hatch pattern. In cases where multiple resource types inhabit the same polygon (such as marine mammals and fish), a black hatch, multi-group pattern is used rather than a brown hatch pattern. A brown icon with a seal silhouette is used to indicate the presence of marine mammals and is associated with all polygons containing these resources.

The RAR# under the icon (or icon group) on the map references a table on the reverse side of the map. In this table, the first column gives the species name. The second column indicates whether the species is listed as a species of special concern (C), threatened (T), or endangered (E) on either the state (S) and/or federal (F) lists. The next column provides an estimate of the concentration of the species at the site. Concentration was represented as the annual peak number of individuals present at a specific haul out site. In the absence of specific numbers, concentration was represented as a descriptive term, such as "high". Descriptive concentrations are based on the opinion of local resource managers or experts concerning relative concentrations within the study area. In many cases, concentration information is not well known. Note that concentration should not be interpreted as the "level of concern" or "importance" associated with a certain site or particular resource.

The seasonality for each species or resource is shown in the next twelve columns, corresponding to the months of the year. If a species is present at a location in a particular month, an "X" is placed in the month column. The final columns list the time periods for sensitive life-history activities, such as mating and pupping.

BIRDS

Birds in this atlas are divided into several species subgroups based on taxonomy, morphology, behavior, and oil spill vulnerability and sensitivity. The species table lists all the birds included on the maps, sorted by subgroup. These species are included either because of their likelihood of direct or indirect impact by an oil spill or similar incident, their general rarity or imperilment, or their special protection status as threatened or endangered. Migratory or wintering concentration areas, nesting sites and colonies, and protected species are especially emphasized. Waterfowl, shorebird, and wading bird data were compiled from various reports and information provided by USFWS, ODFW, and adapted from WDFW digital priority habitat data. Also, data on Caspian terns and other seabirds were derived from the Columbia River Bird Research 2003 Season Summary (Roby et al. 2001).

Eagle nests and feeding areas - (Federal/state threatened)

Nesting locations for bald eagles are shown. These data are a compilation of surveys conducted over a 20-year period by OSU. Only nests that have been active within the last five years were included on the maps. Exact nest sites may vary from year to year. Bald eagle nest locations are shown as green points on the maps. These points may or may not indicate the exact position of the nests in order to protect sensitive nesting locations. Where multiple nests were found in the same location, a polygon was used to show the distribution of those nests. Locations are also shown where bald eagles have been documented as being present in high numbers feeding along rivers and in bays. Information on raptor feeding areas was gathered during interviews with ODFW and NOAA staff.

Terns and diving bird nesting and roosting

Locations are shown on the maps where terns and diving birds have been documented as nesting. Of particular note is East Sand Island in the Columbia River estuary, which supports the largest breeding colony of Caspian terns in the world (~9,900 pairs, Collis et al. 2002). This island also provides breeding habitat for the largest known Pacific coast colony of double-crested cormorants (~8,700 pairs) and large numbers of Brandt's cormorants (40-80 pairs). It is the largest nighttime roost for the brown pelican (federally endangered) (>10,000 individuals). Several additional islands and nearshore areas within the estuary also support large numbers of nesting and migrating terns and diving birds. Users should be aware that seabirds may be feeding and rafting in nearshore areas throughout the estuary in the vicinity and up to several miles away from their nests. During a spill, the experts listed below should be contacted for information on current locations.

Waterfowl

Waterfowl are seasonally abundant throughout the Columbia River during the fall and winter months. Locations are shown where waterfowl are nesting and feeding along the river as determined by expert opinion from ODFW, USFWS, and NOAA staff, as well as WDFW priority habitat data. USFWS waterfowl data were derived from aerial surveys conducted annually. Intertidal marshes and agricultural areas in the lower river provide key habitat for an abundance of waterfowl including mallards, northern pintails, wigeons, Canada geese, scaup, and scoters. These species also tend to utilize small embayments and coves along the Columbia River, as well as areas within the mainstem, as feeding and resting areas. Waterfowl species of particular concern include the dusky Canada goose and the Aleutian goose (federally threatened).

Wading bird roosting/nesting

Nesting and roosting locations for wading birds are shown on the maps. Nesting sites for wading birds such as the great blue heron were generally depicted on the maps as large polygons to protect the exact location of sensitive breeding areas. Roosting and foraging sites for the sandhilll crane (Washington state endangered) are also indicated on the maps. Sandhill cranes utilize open wetlands for roosting and are especially prevalent in the Ridgefield NWR Complex and the Sauvie Island Wildlife Management Area (Engler et al., 2004). Data concerning wading bird roosting, foraging, and nesting locations were compiled from expert information gathered from USFWS and ODFW staff and adapted from WDFW priority habitat digital data.

Migratory shorebird stopover

Areas where large concentrations of migratory shorebirds occur annually during the spring and fall months are indicated on the maps. During these months, several species of shorebirds utilize the Columbia River as a stopover in their migratory route including dunlin, sanderlings, sandpipers, and others. Substantial numbers of shorebirds may also overwinter in the estuary. Information on the locations of shorebird concentration areas was based on USFWS maps and expert information received from NOAA and USFWS staff.

Expert contacts for birds are Frank Issacs (bald eagles, OSU, Philomath, OR) 541/929-7154; Herman Biederbeck (ODFW, Tillamook, OR) 503/842-2741; Keith Kohl (ODFW, The Dalles, OR) 541/296-4628; Dan Roby (seabirds, OSU) 541/737-1955; Alan Clark (USFWS, Julia Butler Hansen NWR, Cathlamet, WA) 360/795-3915; Eric Anderson (USFWS, Ridgefield NWR complex) 360/887-

3883; and Mark Nebeker (ODFW, Sauvie Island Wildlife Area) 503/621-3488 ext. 25.

Birds are shown on the maps as polygons with a green hatch pattern. Nesting colonies are shown as green points or polygons in cases where multiple nests may extend over a wider area. The points may not necessarily be in the exact location of the nesting colonies. In cases where multiple resource types occupy the same polygon (such as birds and marine mammals), a black hatch, multi-group pattern is used rather than a green hatch pattern. A green icon (or icons) with the appropriate subgroup silhouette(s) is used to indicated the presence of different bird types (waterfowl, shorebirds, etc.). The appropriate icons are associated with all polygons containing birds.

The RAR# under the icon (or icon group) on the maps references a table on the reverse side of the map. In this table the first column contains the species common name. The second column indicated whether the species is listed as a species of special concern (C), threatened (T), or endangered (E) on the federal (F) list. The next column provides an estimate of the concentration of the species at the site. Concentration is usually represented by number of birds, although the term "high" may be used when an exact number is not known. Concentration numbers, when reported, are represented as the annual peak number of individuals present at a specific location. In some cases, concentration values have not been used if information was not available. Note that concentration should not be interpreted as the "level of concern" or "importance" associated with a certain site or particular resource.

The seasonality for each species or resource is shown in the next twelve columns, corresponding to the months of the year. If a species or resource is present at a location in a particular month, an "X" is placed in the month column. The last three columns denote the migratory or nesting seasonality, if applicable, for each species.

REPTILES

Few reptiles of concern are found along the Columbia River. The common western painted turtle is present in many areas along the river. In addition, the western pond turtle (Washington state endangered) has been released into several areas in an attempt to augment declining populations in the area. Nesting and foraging areas for the western pond turtle were determined based on expert knowledge and information provided by local USFWS staff.

The expert contact for the western pond turtle is Eric Anderson (USFWS, Ridgefield, WA) 306/887-3883.

Reptiles are depicted as polygons with a red hatch pattern. In cases where multiple resources types occupy the same polygon, a black hatch, multi-group pattern is used rather than a red hatch polygon. A red icon with a turtle silhouette is used to indicate the presence of reptiles and is associated with all polygons containing these resources.

The RAR# under the icon (or icon group) on the maps references a table on the reverse side of the map. In this table, the first column contains the species common name. The second column indicates whether the species is listed as a species of special concern (C), threatened (T) or endangered (E) on the federal (F) and/or state (S) lists. The next column provides an estimate of the concentration of the species at the site. Concentration is listed as "high" for areas of known usage by the western pond turtle. In some cases, concentration values have not been used because information was not available. Note that concentration should not be interpreted as the "level of concern" of "importance" associated with a certain site or particular resource.

The seasonality for each species or resource is shown in the next twelve columns, corresponding to the months of the year. If a species or resource is present at a location in a particular month, an "X" is placed in the month column.

FISH

Fish species depicted for Columbia River include selected estuarine, anadromous, and freshwater species. Species of commercial, recreational, ecological, and/or conservation interest are emphasized. Fish are mapped as multi-species assemblages to the greatest extent possible. Regional fish distributions were depicted with the assistance of ODFW, WDFW, and NOAA fish biologists.

Anadromous fish

Wild and hatchery-raised stocks of anadromous fish are major components of the freshwater ecosystem of the Columbia River. Chinook, chum, Coho, and sockeye salmon, rainbow trout (steelhead), and others are present in the area and utilize tributary rivers and streams along the Columbia River, as well as some areas in the mainstem, as spawning grounds. When adult fish return to their natal streams, they tend to concentrate at stream mouths prior to moving upstream. Most spawning beds are well upstream in the tributaries and are beyond the limit of tidal excursions that could carry oils slicks inland. In contrast, juvenile salmon and other fish species may concentrate in shallow, near shore habitats in the mainstem river and are likely to be impacted during a spill.

Within the Columbia River, several of the anadromous fish species have federal or state listed runs (e.g., Snake River fall Chinook run). The specific runs and their associated state or federal listings are presented in Table 1. Anadromous stream location for each fish species was depicted on the maps from data compiled by NOAA from ODFW, WDFW, and Streamnet digital data. Other areas of high concentrations of juvenile and adults in the mainstem river were identified by ODFW, USFWS, and NOAA staff. A review of selected species utilizing the Columbia River is presented below. Note that life history and seasonal presence for the following species is generalized for the entire Columbia River and local biologists should be consulted for exact run timings.

Chinook salmon

Three runs of Chinook salmon (*Oncorhynchus tshawytscha*) return to the lower Columbia River including spring Chinook, "tule" fall Chinook, and "bright" fall Chinook. Spring Chinook generally return to freshwater in March and April and spawn in the late summer. Spring Chinook juveniles migrate to the ocean after rearing in the river for one year. The distinction between the fall runs of Chinook refers to the timing of spawning. Both types of fall Chinook return to the Columbia River from August to October/November. However, "tule" fall Chinook spawn almost immediately in large tributary mainstems, while the "brights" spawn from November to January farther upriver. Juveniles for both types of fall Chinook migrate downstream as sub-yearlings during their first spring and summer. For the purposes of simplification on these maps, the two fall runs are treated as one. Several of the Chinook salmon runs are federally or state listed, and a review of those species can be found in Table 1.

Rainbow trout (Steelhead)

Similar to the Chinook salmon, the rainbow trout (Steelhead) (*Oncorhynchus mykiss*) has both summer and winter runs. Summer Steelhead typically enter the Lower Columbia River between May and October and spawn between February and April. In contrast, winter run Steelhead return from the ocean between December and May and generally spawn in April and May. Juveniles of both runs may rear in freshwater from 1 to 4 years before returning to the ocean. Several of the Steelhead runs are federally or state listed, and a review of those species can be found in Table 1.

Chum Salmon

Chum salmon (*Oncorhynchus keta*) return to the Columbia River to spawn from September through November. Most spawning occurs in the lower portions of the Columbia River tributaries and in some portions of the mainstem river. Chum fry migrate downstream to the ocean immediately after emergence from spawning beds. Annual runs of Chum have declined dramatically and now average only 4,000 fish, about 3% of the historic run size. All populations of Chum were listed as threatened in 1999 (Table 1). Hardy, Hamilton, and Ives Island areas in the mainstem river near Pierce NWR retain some of the last remaining Chum spawning grounds in the lower Columbia River, thus care should be taken to protect these areas in the event of an oil spill.

Coho salmon

Coho salmon (*Oncorhynchus kisutch*) return to the Columbia River as three year olds during the fall with most spawning for this species occurring in September and October. Juvenile Coho will rear for one year in the river prior to migrating to the ocean. Coho salmon are currently a candidate species under review for listing under the Endangered Species Act (Table 1.). Most Coho salmon present in the Columbia River are hatchery raised and released fish. Wild populations are generally believed to have been extirpated or to consist of no more than a few hundred fish.

Sockeye salmon

Sockeye salmon (*Oncorhynchus nerka*) return to the Columbia River at 3-5 years of age in June and July. Peak spawning months for this species are September and October. Juvenile Sockeye generally rear for one full year in freshwater lakes before migrating to the ocean. Sockeye salmon have declined dramatically in recent years from historic levels, and a portion of the Sockeye run was listed as endangered in 1991 (Table 1).

Sturgeon

Two species of sturgeon occur in the Columbia River, white sturgeon (*Acipenser transmontanus*) and the green sturgeon (*A. medirostris*). Both species are considered to be facultatively anadromous with the ability to live in both fresh and saltwater, but with no requirement for marine residence in their life history. Green sturgeon generally do not range far upstream from the estuary, while the white sturgeon is distributed throughout the Columbia River from the mouth to the John Day dam. The lower Columbia River below Bonneville Dam exhibits the most highly productive populations of white sturgeon on the entire west coast.

Expert contacts for anadromous and warm water fish in the area include Steve Stone (NMFS, Portland, OR) 503/231-2317; Ben Meyer (NMFS, Portland, OR) 503/230-5425; Steve Pribyl (ODFW, The Dalles, OR) 503/296-4628; Thomas Stahl (ODFW, Willamette

River, OR) 503/657-2000 ext. 231; John North (ODFW, Clackamas, OR) 503/657-2000 ext.251; Tom Rien (ODFW, Clackamas, OR) 503/657-2000 ext. 404; Wayne van der Naald (ODFW, Clackamas, OR) 503/657-2000 ext. 237; and Dan Guy (NOAA, Lacey, WA) 360/534-9342.

Fish are generally shown on the maps as polygons with a blue hatch pattern. Anadromous streams were depicted as linear features using a bright blue color readily distinguishable from the light blue color and black outline used for general hydrographic features. In cases where multiple resource types occupy the same polygon (such as fish and waterfowl), a black hatch, multi-group pattern is used rather than a blue hatch pattern. A blue icon with a fish silhouette is used to indicate the presence of fish. This icon is associated with all polygons or arcs containing fish.

The RAR# under the icon or icon group references a table on the reverse side of the map. In this table, the first column gives the species name. The second column denotes whether the species has been designated a species of special concern (C), endangered (E), or threatened (T) on either the state (S) and/or federal (F) lists. For anadromous salmon species an asterisk (*) appears on the data table. For those species refer to Table 1 below for detailed status information. The next column provides an estimate of the concentration of the species at the site. Descriptive terms such as "high" were used in most cases based upon information provided by ODFW and USFWS staff and adapted from WDFW priority habitat data. Concentration values were not used when no information was available.

The seasonality for each species or resource is shown in the next twelve columns corresponding to the months of the year. If a species or resource is present at a location in a particular month an "X" is placed in the month column. The last column denotes different life-history stages or activities including spawning, eggs, larvae, juveniles, and adults.

TABLE 1. Anadromous fish present in the Columbia River and its tributaries. Specific runs are classified as threatened (T), endangered (E), or candidate (Cand.) on either the federal and/or state (Washington, WA; Oregon, OR) level where applicable. The date of listing through the Endangered Species Act (ESA) is also given. S-C=Sensitive-Critical, S-V=Sensitive-Vulnerable, NL=Not listed.

Anadromous Fish	OR	WA	Federal (ESA)	ESA Year Listed
Chinook Salmon (Fall and Spring)				
Lower Columbia R. ESU	S-C	Cand.	T	1999
Upper Willamette R. ESU spring run	T	NL	T	1999
Upper Columbia R. spring run ESU	NL	Cand.	E	1999
Snake R. fall run ESU	T	Cand.	T	1992
Snake R. spring/summer run ESU	T	Cand.	T	1992
Rainbow Trout (Steelhead) (Winter and Summer)				
Lower Columbia R. ESU	S-C	Cand.	T	1998
Middle Columbia R. ESU	S-C	Cand.	T	1999
Upper Columbia R. ESU		Cand.	E	1997
Upper Willamette R. ESU winter run	S-C	NL	T	1999
Snake R. basin ESU	S-C	Cand.	T	1999
Sockeye Salmon				
Snake River ESU	NL	Cand.	E	1991
Coho Salmon				
Lower Columbia R./SW Wash. ESU	E (OR)	NL	Cand.	1995
Chum Salmon				
Columbia River ESU	S-C	Cand.	T	1999
Bull Trout				
Bull Trout-Columbia River Basin	S-C	NL	T	1998
Smelt (Euchalon)	NL	Cand.	NL	
White Sturgeon	NL	NL	NL	
Green Sturgeon	NL	NL	NL	

INVERTEBRATES

Invertebrate species of commercial, subsistence, recreational, ecological, and/or conservation interest are emphasized in this atlas and include crabs, clams, and mussels. Invertebrate distributions are based on information supplied by ODFW staff and WDFW priority habitat data.

The expert contact for invertebrates/shellfish in the Columbia River estuary is Matthew Hunter (ODFW, Astoria, OR) 503/325-2462.

Invertebrates are shown on the maps as polygons with an orange hatch pattern. An orange icon with a crab or bivalve silhouette is used to indicate the presence of these species. The icons are associated with all polygons or point features containing invertebrates.

The RAR# under an icon (or icon group) on the maps references a table on the reverse side of the map. In this table the first column contains the species common name. The second column indicates whether the species is listed as threatened (T), endangered (E), or special concern (C) on either the state (S) or federal (F) lists. The next column provides an estimate of the concentration of the species at the site. Descriptive terms such as "high" were used in most cases based upon information provided by ODFW staff and WDFW priority habitat data. Concentration values were not used when no information was available.

The seasonality for each species or resource is shown in the next twelve columns corresponding to the months of the year. If a species or resource is present at a location in a particular month an "X" is placed in the month column. The last column denotes different life-history stages for invertebrates including spawning, eggs, larvae, juveniles, and adults.

BENTHIC HABITATS/RARE PLANTS

Eelgrass beds were mapped in the Columbia River estuary using expert opinion of NOAA and ODFW staff in conjunction with USFWS maps. Areas of concern for eelgrass include Grays Bay, Youngs Bay, and Bakers Bay in the estuary. Additional eelgrass beds may be present in other areas within the estuary.

Individual plant species of particular concern depicted on the maps include the wetland species water howellia (*Howellia aquaticus*) (federal threatened) and Columbia yellow cress (*Rorippa columbiae*) (Washington State threatened). Water howellia occurs in the western wetland habitats of Ridgefield NWR while the Columbia yellow cress occurs in the seasonally inundated cobble habitats near Pierce NWR. Both species were mapped using maps provided by USFWS through the Ridgefield National Wildlife complex. Care should be taken in the event of a spill to prevent impacts to these species from oil as well as trampling during periods of annual growth.

The expert contact for water howellia and Columbia yellow cress is Eric Anderson (Ridgefield, WA) 360/887-3883.

Submersed habitats and rare plants are depicted as polygons shaded with a purple hatch pattern. In cases where multiple resource types occupy the same polygon (such as eelgrass and fish), a black hatch, multi-group pattern is used rather than a purple hatch polygon. A purple icon with the appropriate silhouette is used to indicate the presence of submersed habitats or plants and is associated with all polygons or point features containing these resources. The RAR# under the icon references a table on the reverse side of the map. In this table, the first column gives the species name. The next column provides an estimate of the concentration of the species at the site. Concentration is generally listed using a descriptive term, such as "high," "medium," or "low." Records for rare and endangered species may also contain "present" in the concentration field where more detailed concentration descriptions are not appropriate or not available. The species seasonality is shown in the next twelve columns, representing the months of the year. If the species is present at that location in a particular month, an "X" is placed in the month column. Submersed habitats and rare plants were mapped as being present year round.

HUMAN-USE FEATURES

The human use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations. All the features are represented by icons indicating the type of human-use resource present. Many of the point features were mapped using digital data sources, expert information, published sources, and USGS topographical maps. Boat ramps and marina locations were supplemented by information gathered from the shoreline mapping overflights. Hardcopy maps were used to supplement or refine the digital management area data.

Aquaculture/Hatchery: Locations of aquaculture sites. When known, the site name, owner/manager, and contact information are provided on the data tables for each map. This information was provided by ODFW and WDFW staff.

Boat Ramp: Location of boat ramps. Boat ramp site names are provided on the data tables for each map, when available.

Coast Guard: Coast Guard station and marina.

Ferry: Sites where ferry landings are located.

Lock/Dam: Location of locks, dams, or similar structures.

Marina: Location of marinas. Marina names are provided on the data tables for each map, when available.

National Forest: Areas managed by USDA Forest Service.

Park: Areas managed by either Oregon State Parks or Washington State Parks for recreational and natural resource purposes. The property name, management agency, contact information, and telephone number are provided on the data table for each map.

Recreational Fishing: Location of recreational fishing sites. This information was provided by local experts.

Subsistence Fishing: Areas utilized by native Americans in Oregon and Washington for the collection of fish and shellfish.

Water Intake: Location of water intake. For most water intakes, the site name, owner/manager, contact person, and telephone number are provided on the data table for each map.

Wildlife Refuge/Management Areas: Areas managed by the USFWS as National Wildlife Refuges or by the State as Wildlife Management Areas. The property name, management agency, contact information, and telephone number are provided on the data table for each map.

GEOGRAPHIC INFORMATION SYSTEM

The entire atlas product is stored in digital form in a Geographic Information System (GIS) as spatial data layers and associated databases. The format for the data varies depending on the type of information or features for which the data are being stored.

Under separate cover is a metadata document that details the data dictionary, processing techniques, data lineage, and other descriptive information for the digital data sets and maps that were used to create this atlas. Below is a brief synopsis of the information contained in the digital version. Refer to the metadata file for a full explanation of the data and its structure.

SHORELINE CLASSIFICATIONS

The ESI shoreline habitat classification is stored as lines and polygons with associated attributes. In many cases, a shoreline may have two or three different classifications or colored lines on the shoreline. These multiple classifications are represented on the maps by double and triple line patterns and in the database by ESI#1/ESI#2, where ESI#1 is the landward-most classification and ESI#2 is the seaward-most classification. In addition to the line features, exposed wave-cut platforms (ESI = 2A), tidal flats (ESI = 7, ESI = 9A), marshes (ESI=10A, ESI=10B), swamps (ESI=10C), and Scrub-Shrub Wetlands (ESI = 10D) are also stored as polygons. Therefore, the legend on each map may contain two patterns depicted on a map: a linear feature as well as a polygonal feature.

SENSITIVE BIOLOGICAL RESOURCES

Biological resources are stored as polygons or points. Associated with each feature is a unique identification number that is linked to a series of data tables that further identify the resources. The main biological resource table consists of a list of species identification numbers for each site, the concentration of each species at each site, and identification codes for seasonality and source information. This data table is linked to other tables that describe the seasonality and life-history time-periods for each species (at month resolution) for the specified map feature. Other data tables linked to the first table include: the species identification table, which includes common and scientific names; the species status table, which gives information for state and/or federal threatened or endangered listings; and the source database, which provides source metadata at the feature-species level (specific sources are listed for each species occurring at each mapped feature in the biology coverages).

HUMAN-USE FEATURES

Human-use features are represented as lines, points, or polygons. The resource name, the owner/manager, a contact person, and phone number are included in the database for management areas, water intakes, marinas, and aquaculture sites when available. All metadata sources are documented at the feature level.

REFERENCES

Listed below are the major hardcopy reference materials used during this project. In some instances, reference materials were not directly used as source materials, but were instead used or interpreted by scientists or resource managers who provided expert knowledge or personal communication concerning resources depicted in the atlas.

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Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), the National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), Oregon State University (OSU), Washington State Parks (WSP), Oregon State Parks (OSP), Washington Department of Ecology (WADOE), Department of the Interior (DOI), the Bureau of Land Management (BLM), and the Lower Columbia River Estuary Program (LCREP) staff from several divisions and programs contributed a vast amount of information to this effort, including first-hand expertise, publications, reports, maps, and digital data. Specific individuals and references used directly as source material are detailed in the metadata report that accompanies the digital data set. At Research Planning, Inc. (RPI) of South Carolina, numerous scientific, GIS, and graphics personnel were involved with different phases of the project. Shoreline habitat mapping was conducted by Colin Plank. The biological and human-use data were collected, compiled, and edited by Amy Gras-Mead and Christine Lord. Jon Whitlock, Lee Diveley, and Chris Locke entered, processed, and produced the GIS data under the supervision of Mark White, GIS director. Cartographic design and graphic art production was provided by Joe Holmes. Vermell Simon and Wendy Early prepared the final text documents and metadata.

APPROPRIATE USE OF ATLAS AND DATA

This atlas and the associated database were developed to provide summary information on sensitive natural and human-use resources for the purposes of oil and hazardous materials spill planning and response. Although the atlas and database should be very useful for other environmental and natural resource planning purposes, it should not be used in place of data held by WDFW, ODFW, USFWS, NOS, NMFS, BLM, or other agencies. Likewise, information contained in the atlas and database cannot be used in place of consultations with natural and cultural resource agencies, or in place of field surveys. This atlas should not be used for navigation.

SPECIES LIST

*Common Name	*Species Name

MARINE MAMMALS

PINNIPED

Steller sea lion	*Eumetopias jubatus*
Harbor seal	*Phoca vitulina*
California sea lion	*Zalophus californianus*

TERRESTRIAL MAMMALS

SMALL MAMMAL

Northern river otter	*Lutra canadensis*
Beaver	*Castor canadensis*
Muskrat	*Ondatra zibethicus*
Mink	*Mustela vison*
Nutria	*Myocastor coypus*

UNGULATE

Columbian white-tailed deer	*Odocoileus virginianus leucurus*

BIRDS

DIVING BIRDS

Western grebe	*Aechmophorus occidentalis*
Double-crested cormorant	*Phalacrocorax auritus*
Brandt's cormorant	*Phalacrocorax penicillatus*
Pelagic cormorant	*Phalacrocorax pelagicus*
Brown pelican	*Pelecanus occidentalis*
Loons	*Gavia spp.*
Grebes	

GULLS AND TERNS

Glaucous-winged gull	*Larus glaucescens*
Western gull	*Larus occidentalis*
Ring-billed gull	*Larus delawarensis*
Caspian tern	*Sterna caspia*
Gulls	

PASSERINES

Purple martin	*Progne subis*

RAPTORS

Bald eagle	*Haliaeetus leucocephalus*
Osprey	*Pandion haliaetus*
Peregrine falcon	*Falco peregrinus*
Goshawk	*Accipiter gentilis*
Turkey vulture	*Cathartes aura*

SHOREBIRDS

Spotted sandpiper	*Actitis macularia*
Dunlin	*Calidris alpina*
Western sandpiper	*Calidris mauri*
Sanderling	*Calidris alba*
Killdeer	*Charadrius vociferus*
Shorebirds	

WADING BIRDS

Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Green heron	*Butorides virescens*
Sandhill crane	*Grus canadensis*
Wading birds	

WATERFOWL

Tundra swan	*Cygnus columbianus*
Canada goose	*Branta canadensis*
Greater white-fronted goose	*Anser albifrons*
Mallard	*Anas platyrhynchos*
Northern pintail	*Anas acuta*
Green-winged teal	*Anas crecca*
Canvasback	*Aythya valisineria*
Common goldeneye	*Bucephala clangula*
Harlequin duck	*Histrionicus histrionicus*
White-winged scoter	*Melanitta fusca*
Surf scoter	*Melanitta perspicillata*
Common merganser	*Mergus merganser*
American coot	*Fulica americana*
American wigeon	*Anas americana*
Trumpeter swan	*Cygnus buccinator*
Dusky Canada goose	*Branta canadensis occidentalis*
Wood duck	*Aix sponsa*
Aleutian Canada goose	*Branta canadensis leucopareia*
Geese	
Scaup	*Aythya spp.*
Waterfowl	
Dabbling ducks	
Diving ducks	
Ducks	
Swans	*Cygnus spp.*

*Common Name	*Species Name

REPTILE

TURTLE

Western pond turtle	*Clemmys marmorata*
Western painted turtle	*Chrysemys picta bellii*

FISH

FISH

White sturgeon	*Acipenser transmontanus*
Green sturgeon	*Acipenser medirostris*
Coastal Cutthroat trout	*Oncorhynchus clarkii clarkii*
Coho salmon	*Oncorhynchus kisutch*
Sockeye salmon	*Oncorhynchus nerka*
Chum salmon	*Oncorhynchus keta*
Eulachon	*Thaleichthys pacificus*
Salmon	
American shad	*Alosa sapidissima*
Pacific lamprey	*Lampetra tridentata*
Chinook salmon (fall)	*Oncorhynchus tshawytscha (fall)*
Chinook salmon (winter)	*Oncorhynchus tshawytscha (winter)*
Chinook salmon (spring)	*Oncorhynchus tshawytscha (spring)*
Rainbow trout (summer)	*Oncorhynchus mykiss (summer)*
Rainbow trout (winter)	*Oncorhynchus mykiss (winter)*
Bull trout	*Salvelinus confluentus*
Chinook salmon (summer)	*Oncorhynchus tshawytscha*
Starry flounder	*Platichthys stellatus*
Common carp	*Cyprinus carpio*
Smallmouth bass	*Micropterus dolomieu*
Walleye	*Stizostedion vitreum vitreum*
White crappie	*Pomoxis annularis*

INVERTEBRATES

BIVALVES

Softshell clam	*Mya arenaria*
Pacific razor clam	*Siliqua patula*
Pacific littleneck	*Protothaca staminea*
Nuttall cockle	*Clinocardium nuttallii*
Freshwater mussel	*Anodonta spp.*

CRABS

Dungeness crab	*Cancer magister*

HABITATS

FLOATING AQUATIC VEGETATION (FAV)

Water howellia	*Howellia aquatilis*

SUBMERSED AQUATIC VEGETATION (SAV)

Eelgrass	*Zostera marina*
Columbian yellowcress	*Rorippa columbiae*

* Threatened and endangered species and species of special concern are designated by underlining

SHORELINE DESCRIPTIONS

EXPOSED ROCKY SHORES **ESI = 1A**

DESCRIPTION

- The intertidal zone is steep (greater than 30° slope), with very little width; solid and composed of bedrock
- Sediment accumulations are uncommon because waves and currents remove debris slumped from the eroding cliffs
- There is strong vertical zonation of intertidal biological communities in the estuarine parts of the river
- This shoreline type is regularly exposed to wave action and strong currents
- Wave reflection is a common phenomena along the outer coast
- Species density and diversity vary greatly depending on exposure and salinity, but barnacles, snails, mussels, amphipods, and macroalgae can be abundant
- Present sparsely throughout the estuary, the most spectacular example is Cape Disappointment at the mouth; common along the river mainstem

PREDICTED OIL BEHAVIOR

- In the lower estuary and outer coast, oil is held offshore by waves reflecting off the steep, hard surfaces; Any oil that is deposited is rapidly removed from exposed faces
- Along the river, oil can form a band at the high water line
- The most resistant oil would remain as a patchy band at or above the high-water line

- Impacts to intertidal communities are expected to be short-term in duration. An exception would be where heavy concentrations of a light refined product comes ashore very quickly

RESPONSE CONSIDERATIONS

- Cleanup is usually not required
- Access can be difficult and dangerous

EXPOSED, SOLID MAN-MADE STRUCTURES **ESI = 1B**

DESCRIPTION

- These structures are solid, man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Many structures are constructed of concrete, wood, or metal
- Often there is no exposed substrate at low tide, but multiple habitats are indicated if present
- They are built to protect the shore from erosion by waves, boat wakes, and currents, and thus are exposed to rapid natural removal processes
- Attached animals and plants are sparse to moderate
- They are common along commercial zones and waterways

PREDICTED OIL BEHAVIOR

- Oil can be held offshore by waves reflecting off the vertical, hard surface in exposed settings
- Oil readily adheres to the dry, rough surfaces at the high-tide line, but it does not adhere to wet substrates
- The most resistant oil would remain as a patchy band at or above the high-tide line

RESPONSE CONSIDERATIONS

- High-pressure water spraying may be conducted to remove persistent oil in crevices, improve aesthetics, and prevent direct contact with oiled surfaces

- Cleanup is usually not required

EXPOSED WAVE-CUT PLATFORMS IN BEDROCK **ESI = 2A**

DESCRIPTION

- They are characterized by a flat or gently sloping shelf or platform that is exposed to regular waves or currents
- Although the platform is composed of bedrock, portions of the platform may be covered by a thin patches of sediments
- The surface of the platform is irregular with numerous crevices; tidal pools are common
- Species density and diversity varies greatly along the salinity gradients
- Present throughout the river, with the largest areas near the John Day dam

PREDICTED OIL BEHAVIOR

- Oil will not adhere to the wet rock surface, but could penetrate crevices or patches of sediments
- Persistence of oil is usually short-term, except in wave shadows or where the oil was deposited high above normal wave activity

RESPONSE CONSIDERATIONS

- Cleanup is usually not required except for areas of high recreational use

- Where the shoreline is accessible, it may be feasible to manually remove heavy oil accumulations and oiled debris

FINE- TO MEDIUM-GRAINED SAND BEACHES ESI = 3A

DESCRIPTION

- These beaches are flat to moderately sloping and relatively hard packed
- There can be heavy accumulations of wrack present
- They are important habitats for migratory and summer nesting birds
- Common within the estuary, best examples are on Sand Island

PREDICTED OIL BEHAVIOR

- Light oil accumulations will be deposited as oily swashes or bands along the upper intertidal zone
- Heavy oil accumulations will cover the entire beach surface; oil will be lifted off the lower beach with the rising tide
- Maximum penetration of oil into fine- to medium-grained sand is about 10-15 cm
- Burial of oiled layers by clean sand within the first week after a spill typically will be less than 30 cm along the upper beach face
- Organisms living in the beach sediment may be killed by smothering or lethal oil concentrations in the interstitial water
- Biological impacts include temporary declines in infauna, which can affect important shorebird foraging areas

RESPONSE CONSIDERATIONS

- These beaches are among the easiest shoreline types to clean
- Cleanup should concentrate on removing oil and oily debris from the upper swash zone once oil has come ashore

- Traffic through both oiled and dune/riparian areas should be severely limited, to prevent contamination of clean areas
- Manual cleanup is advised to minimize the volume of sand removed from the shore and requiring disposal
- All efforts should focus on preventing the mixture of oil deeper into the sediments by vehicular and foot traffic
- Mechanical reworking of lightly oiled sediments from the high-tide line to the middle intertidal zone may be effective along outer beaches

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SCARPS AND STEEP SLOPES IN SAND ESI = 3B

DESCRIPTION

- These scarps are composed of relatively soft, unconsolidated sediments
- The scarps show evidence of active erosion, and beaches in front of the scarps are narrow or absent
- They are common generally at cut-banks of smaller tributaries

PREDICTED OIL BEHAVIOR

- Any stranded oil will form a band along the high-water line.
- There is some potential for oil penetration into any sediment accumulations at the base of the scarp, but active erosion of the scarp will also erode the oil

RESPONSE CONSIDERATIONS

- In some cases, cleanup is not necessary because of the short residence time of the oil
- The need for removal of oiled sediments should be carefully evaluated because of the potential for increased erosion
- Manual labor and close supervision should be used so that the minimal amount of sediment is removed during cleanup

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COARSE-GRAINED SAND BEACHES ESI = 4

DESCRIPTION

- Highly variable beachface slopes; sediments are soft and permeable with low trafficability
- The rate of sediment mobility is relatively high, as the beachface is reworked by boat wakes
- Beach fauna can vary in type and density; mobile surface, burrowing, and interstitial forms are typical
- Very common over entire length of river

PREDICTED OIL BEHAVIOR

- During small spills oil is deposited primarily as a band along the high-water line
- Under heavy accumulations oil may spread across the entire intertidal zone, though it will be lifted off the lower part of the beach during rising tides or water levels in the river
- Penetration up to 25 cm is possible
- Burial of oiled layers by clean sand can be rapid
- Organisms living in the beach may be killed by smothering or lethal oil concentrations in interstitial water

RESPONSE CONSIDERATIONS

- Cleanup more difficult than for finer-grained beaches, because equipment tends to grind oil into the substrate due to the loosely packed and permeable nature of these coarser-grained sediments; therefore, special care must be exercised while using heavy equipment to prevent mixing oil deeper into the beach sediment

- Use of heavy equipment for oil/sand removal may also result in the export of excessive amounts of sand; therefore, where feasible and for smaller amounts of oil, manual cleanup may be desirable
- Vehicular and foot traffic through oiled areas and riparian habitat should be limited to prevent contamination of clean areas and disturbance of riparian vegetation
- Removal of sediment should be limited as much as possible to avoid erosion problems on the beach in the future; however, the common occurrence of multiple buried oil layers in these types of beaches increases the amount of sediment to be handled and disposed of

MIXED SAND AND GRAVEL BEACHES — ESI = 5

DESCRIPTION

- Moderately sloping beach composed of a mixture of sand and gravel (gravel component should comprise between 20 to 80 percent of total sediments)
- Because of the mixed sediment sizes, there may be zones of pure sand, pebbles, or cobbles
- There can be large-scale changes in the sediment distribution patterns depending upon season, because of the transport of the sand fraction offshore during storms
- Because of sediment desiccation and mobility on exposed beaches, there are low densities of attached animals and plants
- Uncommon in the lower estuary, occurring as small pocket beaches within the estuary and near Cape Disappointment
- Common along the river, generally found at the mouths of smaller tributaries such as the Sandy River in Troutdale

PREDICTED OIL BEHAVIOR

- During small spills, oil will be deposited along and above the high-tide swash
- Large spills will spread across the entire intertidal area
- Oil penetration into the beach sediments may be up to 50 cm; however, the sand fraction can be quite mobile, and oil behavior is much like on a sand beach if the sand fraction exceeds about 40 percent
- Burial of oil may be deep at and above the high-tide line, where oil tends to persist, particularly where beaches are only intermittently exposed to reworking by waves
- In sheltered pockets on the beach, pavements of asphalted sediments can form if there is no removal of heavy oil accumulations
- Once formed, asphalt pavements can persist for many years

RESPONSE CONSIDERATIONS

- Heavy accumulations of pooled oil should be removed quickly from the upper beachface
- All oiled debris should be removed
- Sediment removal should be limited as much as possible
- Low-pressure flushing may be used to float oil away from the sediments for recovery by skimmers or sorbents. High-pressure spraying should be avoided because of the potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones
- Mechanical reworking of oiled sediments from the high-tide zone to the upper intertidal zone may be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide zone
- In-place tilling may be used to reach deeply buried oil layers in the middle zone on exposed beaches

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GRAVEL BEACHES — ESI = 6A

DESCRIPTION

- Gravel beaches can be steep, with multiple wave-built berms forming the upper beach. Gravel beaches have the lowest trafficability of all beach types and may contain shell and woody debris
- Because of the high mobility of sediments on exposed gravel beaches, there are low densities of animals and plants
- Common, especially on the north side of estuary and very common along the river mainstem

PREDICTED OIL BEHAVIOR

- Deep penetration of stranded oil is likely on gravel beaches because of their high permeability
- Long-term persistence will be controlled by the depth of routine reworking by waves and boat wakes
- Along sheltered portions of the shorelines, chronic sheening and the formation of asphalt pavements is likely where accumulations are heavy

RESPONSE CONSIDERATIONS

- Heavy accumulations of pooled oil should be removed quickly from the upper beachface
- All oiled debris should be removed
- Sediment removal should be limited as much as possible
- Low-pressure flushing can be used to float oil away from the sediments for recovery by skimmers or sorbents

- Mechanical reworking of oiled sediments from the high-tide zone to the upper intertidal zone may be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide zone
- In-place tilling may be used to reach deeply buried oil layers in the middle zone on exposed beaches

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RIPRAP — ESI = 6B

DESCRIPTION

- Riprap structures are composed of cobble- to boulder-sized blocks of rock
- Riprap structures are used for shoreline protection and as jetties in harbors
- Attached biota are sparse on exposed riprap
- They are common in Astoria and over the entire length of river, associated with boat ramps, dams, and railroads

PREDICTED OIL BEHAVIOR

- Deep penetration of oil between the blocks is likely
- Oil adheres readily to the rough surfaces of the blocks
- Uncleaned oil can cause chronic leaching until the oil hardens

RESPONSE CONSIDERATIONS

- When the oil is fresh and liquid, high pressure spraying and/or water flooding may be effective, making sure to recover all liberated oil

- Heavy and weathered oils are more difficult to remove, requiring scraping and/or hot-water spraying

EXPOSED TIDAL FLATS — ESI = 7

DESCRIPTION

- Exposed tidal flats are broad, flat intertidal areas composed primarily of sand and minor amounts of gravel (in a few areas)
- The presence of sand and gravel indicates that tidal currents and waves are strong enough to mobilize the sediments
- Biological utilization can be very high, with large numbers of infauna, heavy use by birds for roosting and foraging, and use by foraging fish
- They are very common in the lower estuary and sometimes occur on the seaward, more exposed edge of a larger mudflat

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the surface of exposed tidal flats, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil does not penetrate water-saturated sediments
- Biological damage may be severe, primarily to infauna, thereby reducing food sources for birds and other predators

RESPONSE CONSIDERATIONS

- Currents and waves can be very effective in natural removal of the oil
- Cleanup is very difficult (and possible only during low tides)
- The use of heavy machinery should be restricted to prevent mixing of oil into the sediments

SHELTERED ROCKY SHORES — ESI = 8A

DESCRIPTION

- The substrate is solid and composed of bedrock
- This shoreline type is sheltered from large waves and strong currents
- Sediments may accumulate at the base of this shoreline type
- The slope of the intertidal zone is generally moderate to steep (greater than 15°) with little width
- Sheltered rocky shores are moderately common in the lower estuary; Not common along the river mainstem, mostly occurred along the banks of the Willamette River

PREDICTED OIL BEHAVIOR

- Heavy oils tend to coat the dry, irregular surface
- Stranded oil will persist because of low energy setting

RESPONSE CONSIDERATIONS

- Low-pressure flushing at ambient temperatures is most effective when the oil is fresh and still liquid
- Care must be taken during flushing operations to prevent oily effluents from affecting biologically rich, lower intertidal levels
- Where the high-tide area is accessible, it may be feasible to remove heavy oil accumulations and oiled debris

SHELTERED, SOLID MAN-MADE STRUCTURES — ESI = 8B

DESCRIPTION

- These structures are solid man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Structures are constructed of concrete, wood, or metal
- Often there is no exposed beach at low water, but multiple habitats are indicated if present
- Attached animal and plant life is highly variable
- They are common in developed commercial waterfront areas such as around Astoria and Portland, also common along the Willamette River and in association with dams

PREDICTED OIL BEHAVIOR

- Oil will adhere readily to rough surfaces, particularly along the high-tide line, forming a distinct oil band
- The lower intertidal zone usually stays wet (particularly if algae covered), preventing oil from adhering to the surface

RESPONSE CONSIDERATIONS

- Cleanup of seawalls is usually conducted for aesthetic reasons or to prevent leaching of oil
- Low- to high-pressure spraying at ambient water temperatures is most effective when the oil is fresh

SHELTERED RIPRAP **ESI = 8C**

DESCRIPTION

- Riprap structures are composed of cobble- to boulder-sized blocks of rock
- These structures are found inside harbors and bays in highly developed areas, sheltered from direct exposure to waves
- Attached animal and plant life can be present
- Sheltered riprap is very uncommon in the mapped area

PREDICTED OIL BEHAVIOR

- Deep penetration of oil between the boulders is likely
- Oil adheres readily to the rough surfaces
- If oil is left uncleaned, it may cause chronic leaching until the oil hardens

RESPONSE CONSIDERATIONS

- High-pressure spraying may be required to remove oil for aesthetic reasons and to prevent leaching of oil from the structure

- Cleanup crews should make sure to recover all released oil

SHELTERED TIDAL FLATS **ESI = 9A**

DESCRIPTION

- Sheltered tidal flats are composed primarily of mud with minor amounts of sand and shell
- They are present in calm-water habitats, sheltered from major wave activity, and frequently backed by marshes
- The sediments are very soft and cannot support even light foot traffic in many areas
- They can have heavy wrack deposits along the upper fringe
- Large concentrations of shellfish, worms, and snails can be found on and in the sediments
- They are heavily utilized by birds for feeding
- Large sheltered muddy flats are very common throughout the lower estuary, generally associated with islands of saltmarsh such as Russian Island

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the surface of sheltered tidal flats, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil will not penetrate the water-saturated sediments, but could penetrate burrows and desiccation cracks or other crevices in muddy sediments
- In areas of high suspended sediments, sorption of oil can result in deposition of contaminated sediments on the flats

- Biological damage may be severe

RESPONSE CONSIDERATIONS

- These are high-priority areas necessitating the use of spill protection devices to limit oil-spill impact; deflection or sorbent booms and open water skimmers should be used
- Cleanup of the flat surface is very difficult because of the soft substrate; many methods may be restricted
- Low-pressure flushing and deployment of sorbents from shallow-draft boats may be helpful

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SHELTERED, VEGETATED LOW BANKS **ESI = 9B**

DESCRIPTION

- These habitats are composed of low banks with grasses or shrubs along smaller tributaries
- They can be flooded occasionally by high water
- These habitats can be important for fish, shellfish, birds, and terrestrial mammals
- They are occur in the riverine sections, along the smaller tributaries, with minimal tidal water level changes

PREDICTED OIL BEHAVIOR

- During low water, it is unlikely that oil in the main river would affect these areas; however, during high river levels, oil could flow into them
- Oil will coat any vegetation at the water line
- Oil can contaminate and become trapped in debris

RESPONSE CONSIDERATIONS

- Low-pressure flushing may be effective in small waterbodies, to flush oil trapped along the banks and in debris to collection sites
- Care should be taken to prevent mixing of oil into sediments during response activities
- Deployment of sorbents may be necessary to recover sheens after gross oil removal

SALT- AND BRACKISH-WATER MARSHES **ESI = 10A**

DESCRIPTION

- Intertidal wetlands containing emergent, herbaceous vegetation
- Width of the marsh can vary widely, from a narrow fringe to extensive areas
- Marsh soils can range from sand to high-organic peats
- Exposed areas are located along bays with wide fetches and along heavily trafficked waterways
- Sheltered areas are not exposed to significant wave or boat wake activity
- Resident flora and fauna are abundant with numerous species with high utilization by birds, fish, and shellfish
- They are very common in the lower estuary, particularly in the Lewis and Clark National Wildlife Refuge

PREDICTED OIL BEHAVIOR

- Oil adheres readily to intertidal vegetation
- The band of coating will vary widely, depending upon the water level at the time oil slicks are in the vegetation. There may be multiple bands
- Large slicks will persist through multiple tidal cycles and coat the entire stem from the high-tide line to the base
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, although lighter oils can penetrate deeper, to the limit of tidal influence
- Medium to heavy oils do not readily adhere to or penetrate the fine sediments, but can pool on the surface or in burrows
- Light oils can penetrate the top few centimeters of sediment and deeply into burrows and cracks (up to one meter)

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

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FRESHWATER MARSHES **ESI = 10B**

DESCRIPTION

- These are grassy wetlands composed of emergent herbaceous vegetation in tidal freshwater settings
- Marsh soils can vary widely from sand and gravel to peat
- Resident flora and fauna are abundant
- Common throughout riverine areas as both extensive islands and narrow fringing marsh

PREDICTED OIL BEHAVIOR

- Oil adheres readily to the vegetation
- The band of coating will vary widely, depending upon the water level changes at the time oil slicks are in the vegetation. There may be multiple bands
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, although lighter oils can penetrate deeper

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Cleanup activities should be carefully supervised to avoid vegetation damage

- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

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SWAMPS **ESI = 10C**

DESCRIPTION

- Swamps consist of shrubs and hardwood forested wetlands. Vegetation is taller, on average, than 6 meters
- Sediments are silty clay with large amounts of organic debris
- They are seasonally flooded, though there are areas that are permanently flooded, mostly along the floodplains of tributaries or man-made impoundments
- Flora and fauna are abundant with numerous species
- They occur in inland areas, often along stream floodplains and as isolated wetlands

PREDICTED OIL BEHAVIOR

- They are risk of oiling from river spills during high-water events and spills from land
- Oil can penetrate into loose organic-rich soils and root cavities where there is no standing water
- Woody vegetation is less sensitive than grasses to oil

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. Cleanup is usually difficult and intrusive

- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Woody vegetation should not be cut

SCRUB-SHRUB WETLANDS **ESI = 10D**

DESCRIPTION

- Scrub-shrub wetlands consist of woody vegetation less than 6 meters tall including true shrubs, small trees, and trees and shrubs that are stunted due to environmental conditions
- The sediments are silty clay mixed with organic debris
- They grow above normal spring high tides, thus they are seldom inundated by salt water
- Resident flora and fauna are abundant
- They are usually found in association with artificial ponds created by railroad tracks

PREDICTED OIL BEHAVIOR

- They are generally not a risk of oiling from marine spills because of their position above normal high tides
- They could become oiled during very high water levels, from land-based spills, or during cleanup of adjacent areas
- Woody vegetation is less sensitive than grasses to oil

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Woody vegetation should not be cut

6.11 SENSITIVITY MAPS, CONTINUED

Click to view/print Legend

COLUMBIA RIVER

SHORELINE HABITATS

- 1A EXPOSED ROCKY SHORES
- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
- 3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES
- 8B SHELTERED, SOLID MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
- 9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB / SHRUB WETLANDS

SENSITIVE BIOLOGICAL RESOURCES

BIRD

- DIVING BIRD
- GULL / TERN
- PASSERINE
- RAPTOR
- SHOREBIRD
- WADING BIRD
- WATERFOWL
- NESTING SITE

MARINE MAMMAL

- PINNIPED
- HAUL-OUT SITE

TERRESTRIAL MAMMAL

- SMALL MAMMAL
- UNGULATE

INVERTEBRATE

- BIVALVE
- CRAB

FISH

- FISH
- ANADROMOUS STREAM

REPTILE / AMPHIBIAN

- TURTLE

HABITAT

- FLOATING OR SUBMERGED AQUATIC VEGETATION

MULTIPLE ELEMENTS

- THREATENED / ENDANGERED
- 123 RAR NUMBER

HUMAN-USE FEATURES

- AQUACULTURE / HATCHERY
- BOAT RAMP
- COAST GUARD
- FERRY
- LOCK AND DAM
- MARINA
- NATIONAL FOREST
- PARK
- RECREATIONAL FISHING
- SUBSISTENCE FISHING
- WATER INTAKE
- WILDLIFE REFUGE
- 123 HUMAN-USE NUMBER
- MANAGEMENT AREA
- BRIDGE

Guidelines for Interpreting ESI Maps

To help users interpret the ESI maps and tabular data, we offer the following guidelines for use in addition to the map legend:

• Shoreline Habitats. The "shoreline," representing the boundary between land and water, is color-coded with the ESI classification. Most shoreline habitats are shown as a line, with no areal dimension. Where there is more than one shoreline type (e.g., a beach in front of a seawall), the colors for each habitat are shown, with the color for the landward habitat on the land side of the shoreline and the color for the seaward habitat on the water side. In areas where the intertidal zone is wide (e.g., wide tidal flats, wave-cut rocky platforms), the habitat from high to low water is filled with the ESI classification color. When data are available, the entire extent of wetlands are filled with colored patterns. The seaward edge of the wetland is color-coded with the ESI classification; the landward extent of the wetland is indicated by a dashed, colored line.

• Biological Resources. The distribution of biological resources is shown using many different conventions. The major convention is an icon associated with a point, line, or polygon that shows the species' areal distribution. The icon's reference number corresponds to a data table with details on species and life history. Biological resource data are organized into six major groups, each with a reference color: birds (green), mammals (brown), fish (blue), shellfish (orange), reptiles (red), and rare/endangered plants and special habitats (purple). These colors are used to fill hatched polygons and the icons. Each major group has subgroups with unique icons to visually indicate the type of organism or feature present. The icon or group of icons is usually located inside the polygon it represents; however, sometimes a line is connected between the icon and the polygon or point to make it easier to relate the two. Note that icons are used to indicate the types of resources present, but the actual data are the points and polygons. A red box around an icon indicates the presence of a species on the state or Federal list of threatened or endangered species.

The number listed below each icon refers to the first column of a data table for each map. The data tables, organized by group (birds, fish, etc.), include the following information: species name, status as threatened or endangered on state and Federal lists, concentration (specifically for each point or polygon), presence by month, and special life-history time periods. When a polygon contains multiple groups, the one number under the group of icons is listed under each group heading in the data tables. Where possible, the same number is used on multiple maps. For example, all bald eagle nests with the same seasonality could have the same number throughout the atlas, or the same assemblage of fish would have the same number wherever it occurred.

A data table has a separate listing for every unique combination of species, concentration, seasonality, life-history stage, and source. By looking at the monthly seasonality data in the table for each map, the species present at the time of concern can be easily identified. An 'X' or number is placed under each month in which any life stage of the species is present in the area represented by the point or polygon. Numbers are used typically for fish and shellfish where data on relative abundance are available. The final columns in the data tables include the months when reproductive activities occur or early life stages are present. Users should pay close attention to the data tables because they contain much of the information needed to identify the most sensitive resources at different times of the year.

Points, lines, and polygons on a map represent the distribution of the resources. Green points show bird nesting sites, including bald eagle nests and dense colonial nesters (e.g., heron rookeries and seabird nesting colonies). Animals and habitats are also represented as: 1) hatched polygons in the color for the animal group (e.g., green for birds); 2) black hatched polygons which contain multiple groups of resources (birds and fish in the same tidal channels); 3) solid lines (usually used for fish in small streams); or 4) in "common in ..." boxes. When showing the biological resource polygons would make the maps too difficult to read (usually when multiple polygons cover a large area), the polygons are not plotted and the presence of the resource is indicated by placing the icon in a box labeled "common in ..." The box contains an appropriate geographic reference. Different boxes can be used on the same map when, for example: "common in Winyah Bay" or "common in tidal creeks." The data for these resources are still fully present in the database but are not shown to make the maps more readable.

• Human-use Resources. Most of the human-use resources are point features indicated by a black-and-white icon. Managed lands, such as refuges and sanctuaries, have their boundaries shown as a dot-dash line with an icon and name placed inside. Where the feature is a known point location (e.g., a drinking water intake, boat ramp, marina), the exact location is shown as a small black dot and a line is drawn from it to the icon. Activities such as commercial and recreational fishing and areas such as recreational beaches are also indicated by an icon placed in the general area without any lines to points or polygons since the boundaries are not readily defined.

Some features, like historic and archaeological sites, are location-sensitive: the agency managing the resource believes the exact location should not be shown in order to protect the site. In these cases, the icon is placed in the general area of the resource, but the exact location is not shown.

6.11 SENSITIVITY MAPS, CONTINUED

Click to view/print Map Data

Columbia River: ESIMAP 19

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
7	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Common goldeneye					X	X								X	X		-	-	-
	Scaup					X	X	X	X	X			X	X	X	X		-	-	-
	Dabbling ducks					X	X	X	X	X			X	X	X	X		-	-	-
17	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
30	Bald eagle	T	T		2 PAIRS	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
77	Killdeer					X	X			X	X	X	X	X	X	X		-	-	-
	Trumpeter swan					X	X	X	X	X			X	X	X	X		-	-	-
	Tundra swan					X	X	X	X	X			X	X	X	X		-	-	-
	Waterfowl				250000	X	X								X	X		-	-	-
	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds				15000			X	X	X			X	X	X			-	-	-
	Spotted sandpiper					X	X	X	X	X			X	X	X	X		-	-	-
81	Sandhill crane				PRESENT	X	X	X	X	X				X	X	X		-	-	-
84	Osprey							X	X	X	X	X	X	X				MAR-SEP	-	-
86	Great blue heron				6 PAIRS	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
87	Sandhill crane				100-200	X	X	X	X	X				X	X	X		-	-	-
	Greater white-fronted goose					X	X	X	X	X		X	X	X	X	X		-	-	-
	Ducks				100S	X	X								X	X		-	-	-
	Tundra swan					X	X	X	X	X				X	X	X		-	-	-
	Canada goose				1000S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
88	Waterfowl				HIGH	X	X								X	X		-	-	-
	Sandhill crane					X	X	X	X	X				X	X	X		-	-	-
	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
90	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				HIGH	X	X								X	X		-	-	-
91	Great blue heron					X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
92	Great blue heron					X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
93	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-

FISH:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
7	Chinook salmon (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	SEP-APR	-	MAR-SEP	JUN-NOV
	Sockeye salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	-	-	JAN-DEC	AUG-FEB
	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coastal Cutthroat trout	C		OR		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	JAN-JUN	-	JAN-DEC	JAN-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP
	Steelhead (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUN	JAN-JUN	-	JAN-DEC	MAR-OCT
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Bull trout	C	T			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	SEP-JAN	-	JAN-DEC	JAN-DEC
84	Salmon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	JAN-DEC	JAN-DEC
89	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-	-	JAN-DEC
90	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
138	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
222	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
224	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
226	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP

HABITAT:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
81	Water howellia	T	T	WA	PRESENT	X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
77	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
90	Western pond turtle	E	C	WA		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western pond turtle	C	C	OR		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
77	Northern river otter				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X
	Beaver				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
21	BOAT RAMP		
25	BOAT RAMP		

PARK:

HUN#	Name	Contact	Phone
74	KELLY POINT PARK	PARK MANAGER	503/823-2223

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
109	RIDGEFIELD NWR	USFWS REFUGE MANAGER	360/887-4106
110	SAUVIE ISLAND WILDLIFE AREA	ODFW	503/621-3488

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Columbia River: ESIMAP 20

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
7	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Common goldeneye					X	X									X	X	-	-	-
	Scaup					X	X	X	X	X			X	X	X	X		-	-	-
	Dabbling ducks					X	X	X	X	X			X	X	X	X		-	-	-
17	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
84	Osprey							X	X	X	X	X	X	X				MAR-SEP	-	-
90	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				HIGH	X	X									X	X	-	-	-
99	Waterfowl				HIGH	X	X									X	X	-	-	-
101	Waterfowl					X	X									X	X	-	-	-

FISH:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
7	Chinook salmon (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	SEP-APR	-	MAR-SEP	JUN-NOV
	Sockeye salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	-	-	JAN-DEC	AUG-FEB
	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coastal Cutthroat trout	C		OR		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	JAN-JUN	-	JAN-DEC	JAN-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP
	Steelhead (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUN	JAN-JUN	-	JAN-DEC	MAR-OCT
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Bull trout	C	T			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	SEP-JAN	-	JAN-DEC	JAN-DEC
84	Salmon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	JAN-DEC	JAN-DEC
90	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
98	Common carp					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	White crappie					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Smallmouth bass					X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
	Walleye					X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	-	JAN-DEC
102	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
103	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
138	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
209	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
213	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
220	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
221	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
222	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
226	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP

REPTILE:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
90	Western pond turtle	E	C	WA		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western pond turtle	C	C	OR		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
100	Western painted turtle				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
26	BOAT RAMP		

HATCHERY:

HUN#	Name	Contact	Phone
54	VANCOUVER REGION FIVE OFFICE	WDFW	

PARK:

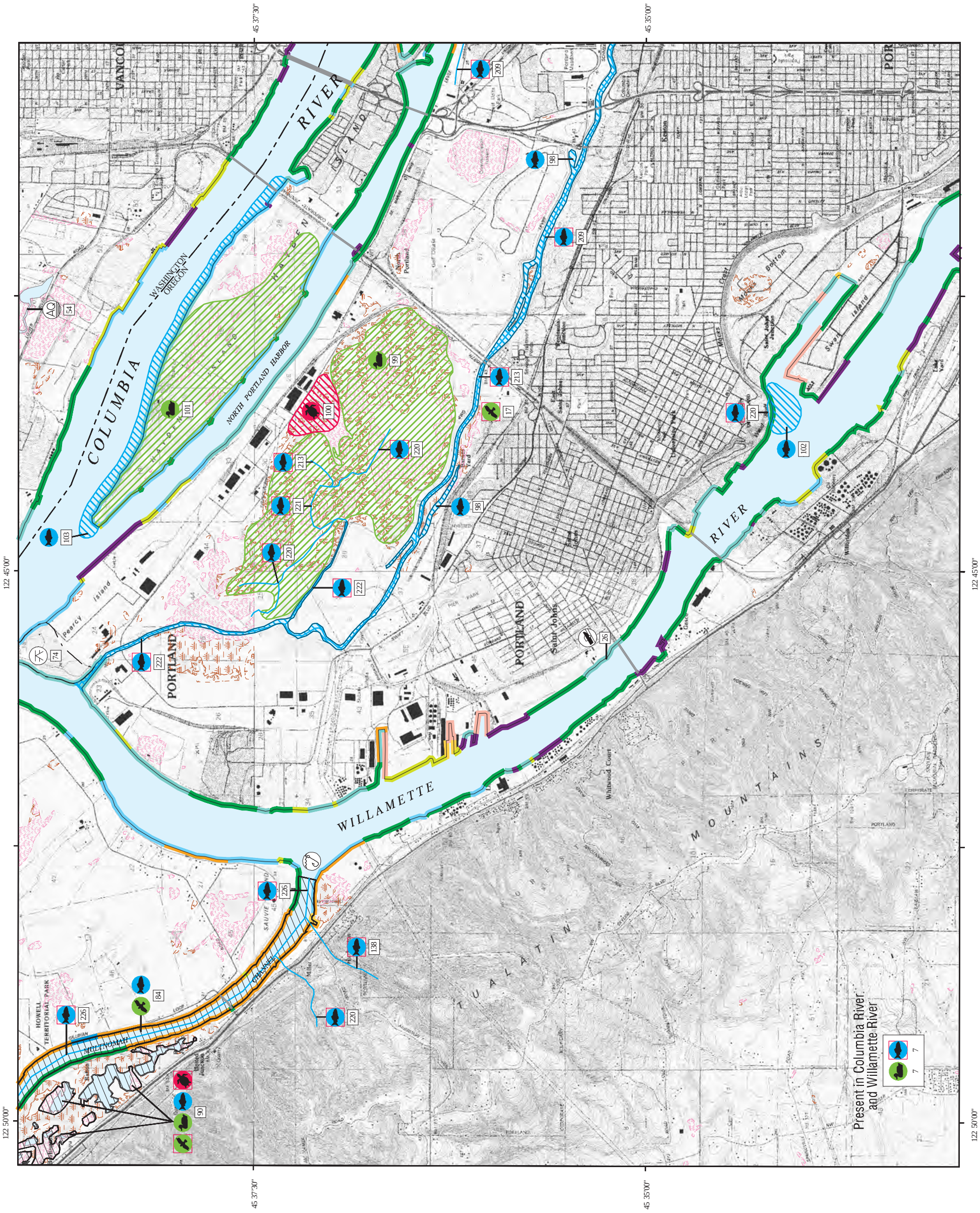
HUN#	Name	Contact	Phone
74	KELLY POINT PARK	PARK MANAGER	503/823-2223

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

6.11 SENSITIVITY MAPS, CONTINUED

Click to view/print Map 1 of 2

ENVIRONMENTAL SENSITIVITY INDEX MAP



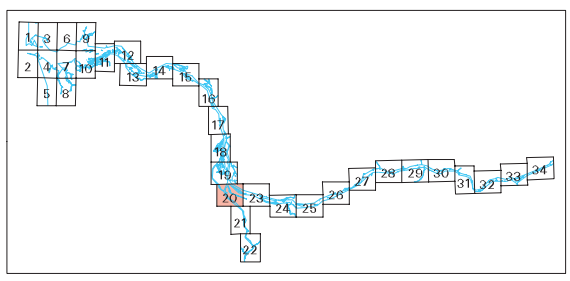
SHORELINE HABITATS (ESI)

- 1A EXPOSED ROCKY SHORES
- 1B EXPOSED, SOLID MAN- MADE STRUCTURES
- 2A EXPOSED WAVE- CUT PLATFORMS IN BEDROCK
- 3A FINE- TO MEDIUM- GRAINED SAND BEACHES
- 3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE- GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES
- 8B SHELTERED, SOLID MAN- MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
- 9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH- WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB- SHRUB WETLANDS

SCALE 1:45000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE



Not For Navigation

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Office of Response and Restoration
Hazardous Materials Response Division

Columbia River **ESI-20**

Columbia River: ESIMAP 20

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
7	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Common goldeneye					X	X									X	X	-	-	-
	Scaup					X	X	X	X	X			X	X	X	X		-	-	-
	Dabbling ducks					X	X	X	X	X			X	X	X	X		-	-	-
17	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
84	Osprey							X	X	X	X	X	X	X				MAR-SEP	-	-
90	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				HIGH	X	X									X	X	-	-	-
99	Waterfowl				HIGH	X	X									X	X	-	-	-
101	Waterfowl					X	X									X	X	-	-	-

FISH:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
7	Chinook salmon (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	SEP-APR	-	MAR-SEP	JUN-NOV
	Sockeye salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	-	-	JAN-DEC	AUG-FEB
	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coastal Cutthroat trout	C		OR		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	JAN-JUN	-	JAN-DEC	JAN-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP
	Steelhead (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUN	JAN-JUN	-	JAN-DEC	MAR-OCT
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Bull trout	C	T			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	SEP-JAN	-	JAN-DEC	JAN-DEC
84	Salmon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	JAN-DEC	JAN-DEC
90	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
98	Common carp					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	White crappie					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Smallmouth bass					X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
	Walleye					X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	-	JAN-DEC
102	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
103	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
138	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
209	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
213	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
220	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
221	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
222	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
226	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP

REPTILE:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
90	Western pond turtle	E	C	WA		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western pond turtle	C	C	OR		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
100	Western painted turtle				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
26	BOAT RAMP		

HATCHERY:

HUN#	Name	Contact	Phone
54	VANCOUVER REGION FIVE OFFICE	WDFW	

PARK:

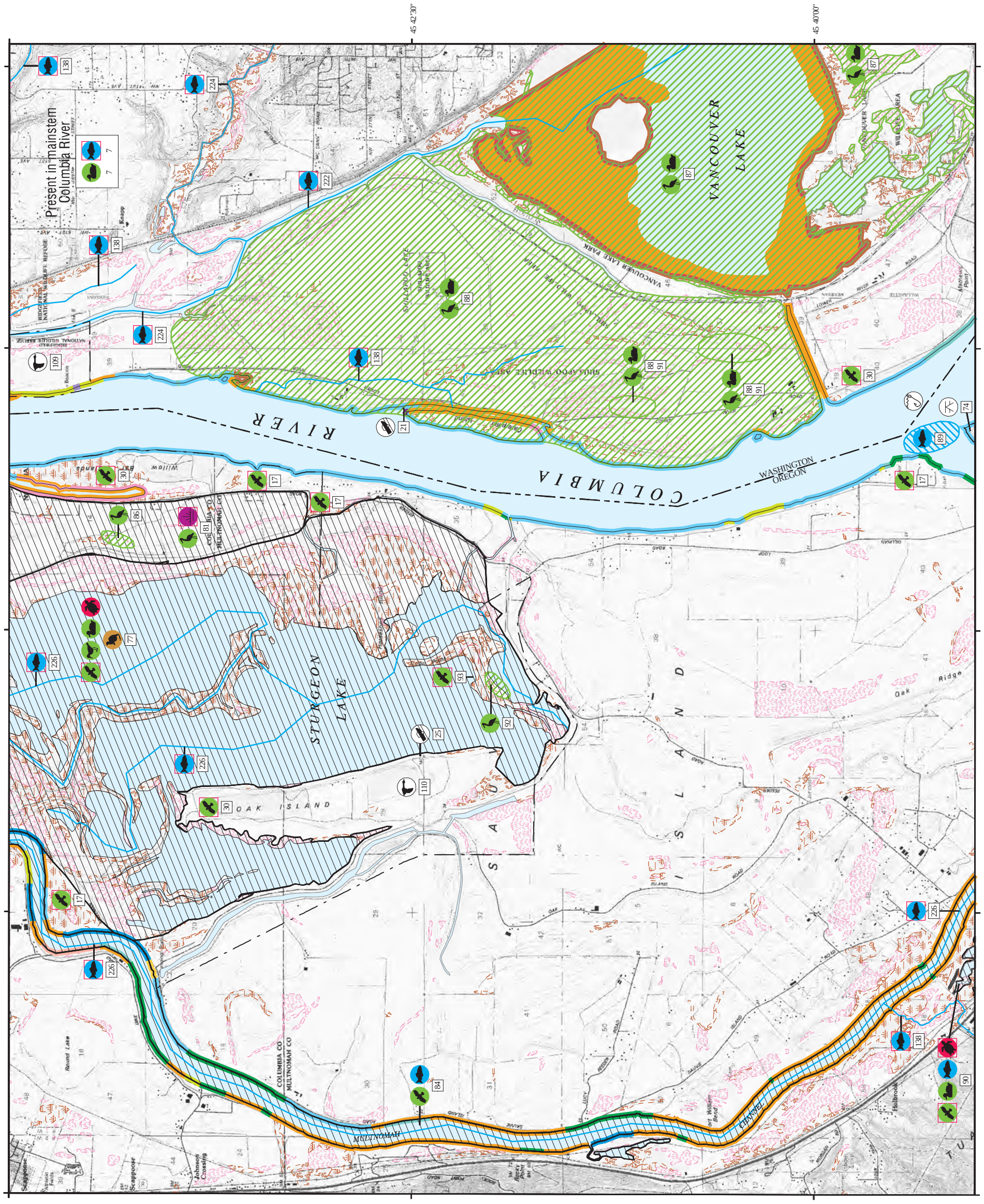
HUN#	Name	Contact	Phone
74	KELLY POINT PARK	PARK MANAGER	503/823-2223

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

6.11 SENSITIVITY MAPS, CONTINUED

Click to view/print Map 2 of 2

ENVIRONMENTAL SENSITIVITY INDEX MAP


45 42'30"
45 40'00"
122 45'00"
122 50'00"
Present in mainstem Columbia River
7
7
VANCOUVER LAKE
VANCOUVER LAKE PARK
SHILLAPOO WILDLIFE AREA
SHILLAPOO LAKE
RIVER
COLUMBIA
WASHINGTON
OREGON
STURGEON LAKE
OAK ISLAND
SAUVIE ISLAND
MULTNOMAH
CHANNEL
COLUMBIA CO
MULTNOMAH CO
Scappoose
Johnson Crossing
Round Lake
Holbrook
Oak Ridge
Rocky Point
Fort William Bend
Knapp
Matney Point
Jordan
Reeder
Lucy
Salvye
Morgan
Pittock
Lower
Deer Island
Willow
Beaver
Pond
Lake
Island
Road
Loop
Drive
Creek
Slough
Channel
Ridge
Point
Bend
Fields
Crossing
Johnson
Scappoose
Multnomah
Sauvie
Oak
Rocky
Reeder
Lucy
Salvye
Morgan
Pittock
Lower
Deer

Columbia River: ESIMAP 19

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
7	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Common goldeneye					X	X								X	X		-	-	-
	Scaup					X	X	X	X	X			X	X	X	X		-	-	-
	Dabbling ducks					X	X	X	X	X			X	X	X	X		-	-	-
17	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
30	Bald eagle	T	T		2 PAIRS	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
77	Killdeer					X	X			X	X	X	X	X	X	X		-	-	-
	Trumpeter swan					X	X	X	X	X			X	X	X	X		-	-	-
	Tundra swan					X	X	X	X	X			X	X	X	X		-	-	-
	Waterfowl				250000	X	X								X	X		-	-	-
	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds				15000			X	X	X			X	X	X			-	-	-
	Spotted sandpiper					X	X	X	X	X			X	X	X	X		-	-	-
81	Sandhill crane				PRESENT	X	X	X	X	X				X	X	X		-	-	-
84	Osprey							X	X	X	X	X	X	X				MAR-SEP	-	-
86	Great blue heron				6 PAIRS	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
87	Sandhill crane				100-200	X	X	X	X	X				X	X	X		-	-	-
	Greater white-fronted goose					X	X	X	X	X		X	X	X	X	X		-	-	-
	Ducks				100S	X	X								X	X		-	-	-
	Tundra swan					X	X	X	X	X				X	X	X		-	-	-
	Canada goose				1000S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
88	Waterfowl				HIGH	X	X								X	X		-	-	-
	Sandhill crane					X	X	X	X	X				X	X	X		-	-	-
	Canada goose					X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
90	Bald eagle	T	T			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				HIGH	X	X								X	X		-	-	-
91	Great blue heron					X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
92	Great blue heron					X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
93	Bald eagle	T	T		1 PAIR	X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-

FISH:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
7	Chinook salmon (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	SEP-APR	-	MAR-SEP	JUN-NOV
	Sockeye salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	-	-	JAN-DEC	AUG-FEB
	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coastal Cutthroat trout	C		OR		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	JAN-JUN	-	JAN-DEC	JAN-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP
	Steelhead (summer)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUN	JAN-JUN	-	JAN-DEC	MAR-OCT
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Bull trout	C	T			X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	SEP-JAN	-	JAN-DEC	JAN-DEC
84	Salmon					X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	JAN-DEC	JAN-DEC
89	White sturgeon					X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-	-	JAN-DEC
90	Salmon				HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
138	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
222	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
224	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chum salmon	*	*			X	X	X	X	X			X	X	X	X		NOV-DEC	DEC-MAR	-	FEB-MAY	OCT-DEC
	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
226	Coho salmon	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-MAR	-	JAN-DEC	AUG-JAN
	Chinook salmon (fall)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	OCT-DEC	OCT-FEB	-	FEB-NOV	AUG-DEC
	Steelhead (winter)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-JUN	-	JAN-DEC	NOV-MAR
	Chinook salmon (spring)	*	*			X	X	X	X	X	X	X	X	X	X	X	X	AUG-SEP	SEP-DEC	-	JAN-DEC	JAN-SEP

HABITAT:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
81	Water howellia	T	T	WA	PRESENT	X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
77	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
90	Western pond turtle	E	C	WA		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western pond turtle	C	C	OR		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Western painted turtle					X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	ST	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
77	Northern river otter				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X
	Beaver				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink				PRESENT	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
21	BOAT RAMP		
25	BOAT RAMP		

PARK:

HUN#	Name	Contact	Phone
74	KELLY POINT PARK	PARK MANAGER	503/823-2223

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
109	RIDGEFIELD NWR	USFWS REFUGE MANAGER	360/887-4106
110	SAUVIE ISLAND WILDLIFE AREA	ODFW	503/621-3488

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

SECTION 7
SUSTAINED RESPONSE ACTIONS

Last Revised: April 7, 2022

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7.1 Response Resources

7.1.1 Facility Response Equipment

Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time

7.1.2 Response Equipment Inspection and Maintenance

7.1.3 Contractors, Contractor Equipment, and Labor

7.1.4 Command Post

Figure 7.1-2 - Command Post Checklist

7.1.5 Staging Area

7.1.6 Communications Plan

Figure 7.1-3 - Communications Checklist

7.2 Public Affairs

Figure 7.2-1 - Incident Fact Sheet

7.3 Site Security Measures

Figure 7.3-1 - Site Security Checklist

Figure 7.3-2 - Facility Security

7.4 Waste Management

Figure 7.4-1 - Waste Management Flow Chart

Figure 7.4-2 - General Waste Containment and Disposal Checklist

7.4.1 Waste Storage

Figure 7.4-3 - Temporary Storage Methods

7.4.2 Waste Transfer

7.4.3 Waste Disposal

Figure 7.4-4 - Facility-Specific Disposal Locations

7.1 RESPONSE RESOURCES

7.1.1 Facility Response Equipment

BOOM						
TYPE/MODEL/YEAR	**QUANTITY**	**SIZE**	**CONTAINMENT AREA (sq ft)**	**STORAGE LOCATION**		
Terminal personnel is available and trained for boom deployment. Limited terminal booms will be deployed within 1 hour following discovery.						
Containment Boom/Skirt Type	3,000'	18"		South Dock Float		
Containment Boom/Skirt Type	1000'	18		Warehouse by North Dock		
SORBENTS						
TYPE/YEAR	**QUANTITY**	**ABSORPTION CAPACITY (gal)**	**STORAGE LOCATION**	**OPERATIONAL STATUS**		
Spill pads/diapers	10 bags		Warehouse			
Absorbent material/boom	160 feet		Warehouse			
HAND TOOLS						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
Shovels						
COMMUNICATIONS EQUIPMENT						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION/NUMBER**	**OPERATIONAL STATUS**			
Hand held radios	6					
Radio base unit	1					
Marine channel radio	1					
Satellite phone	1					

7.1.1 Facility Response Equipment, Continued

FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
20 lb portable fire extinguishers						
150 lb C/D w heeled fire extinguisher						
20 lb A/B/C fire extinguisher						
Scott air packs						
OTHER						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
Work Boat - 22 ft Response Boat / Built 2006	1		Operational			

***Note:** Response equipment is tested and deployed as described in **FIGURE A.1-2** and **FIGURE A.1-4**.

FIGURE 7.1-1 - REGIONAL COMPANY AND RESPONSE CONTRACTOR'S EQUIPMENT LIST / RESPONSE TIME

* USCG Classified OSRO for facility

COMPANY/CONTRACTOR	EQUIPMENT	RESPONSE TIME
*Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc **Office Address:** 200 S. W. Market #190 Portland , OR 97201 **Physical Address:** 5882 NW St Helens Rd Portland, OR 97210	Full Response Capability (The Terminal is an active member of Clean Rivers Cooperative for both aerial oil tracking and w ildlife rehabilitation w ith cooperation from IBRRC. CRC is available w ithin 1 hr and deploy aditional extended booms w ithin 2 hr follow ing the initial notification.)	1 hour(s)

*Note: Response times are based on 35 mph for land (five knots for water) and take into account traffic, weather, and other environmental conditions that could restrict response efforts.

7.1.2 Response Equipment Inspection and Maintenance

Company response equipment is tested and inspected as noted below. The Manager of Operations is responsible for ensuring that the following response equipment and testing procedures are implemented. These consist of:

Containment boom	If applicable, during semiannual boom deployment exercises, boom will be inspected for signs of structural deficiencies. If tears in fabric or rotting is observed, boom will be repaired or replaced. In addition, end connectors will be inspected for evidence of corrosion. If severe corrosion is detected, equipment will be repaired or replaced.
Miscellaneous equipment	Other response equipment identified in this Plan will be inventoried and tested on a semiannual basis to ensure that the stated quantities are in inventory and in proper working order. The equipment inspection and deployment exercises are recorded and maintained at the facility and retained for a period of five years. Exercise requirements are listed in **APPENDIX A.1**. A Spill/Exercise Documentation form is in **FIGURE A.1-3**. **FIGURE A.1-4** provides a log for response equipment testing and deployment drills.

7.1.3 Contractors, Contractor Equipment, and Labor

- The Company's primary response contractors' names and phone numbers, as well as other companies who can provide spill response services are provided in **FIGURE 3.1-6**.
- The Company has ensured by contract the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to the worst case discharge or the substantial threat of such discharge.
- Contractors without USCG classification deploy and inspect boom to meet PREP guidelines. Company requires that these exercises are completed annually.
- **APPENDIX B** contains evidence of contracts for the Company's primary response contractors and equipment lists of contractors without USCG classification.

7.1.4 Command Post

In the event of a major spill or other emergency, both a Company off-site Command Center and a Command Post (located close to but at a safe distance back from the incident scene) may be established. For a minor emergency, only a Command Post may be established. Refer to **FIGURE 7.1-2** for guidelines in establishing a Command Post.

FIGURE 7.1-2 - COMMAND POST CHECKLIST

Figure 7.1-2 - Command Post Checklist	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Ensure adequate space for size of staff.			
Ensure 24-hour accessibility.			
Ensure personal hygiene facilities.			
Ensure suitability of existing communications resources (phone/fax/radio).			
Ensure suitability of private conference and briefing rooms.			
Identify Command Post security requirements, safe location.			
Notify other parties of Command Post location; provide maps/driving directions.			
Determine staging areas and incident base locations.			
Identify future need to move, upgrade facilities.			

Command Posts for this facility are located at:

The main office will be the mitigation command center and the location of shelter at the Facility if conditions permit.

7.1.5 Staging Area

According to the incident type and magnitude, numerous staging areas may be required to support containment and cleanup operations. The staging area should be located in the cold zone inside the delineated isolation perimeter.

In selecting a suitable staging area, the following criteria should be considered:

- Accessibility to impacted areas;
- Proximity to secure parking, airports, docks, pier, or boat launches; and
- Accessibility to large trucks and trailers which may be used to transfer equipment.

In addition, the staging area should:

- Be in a large open area in order to provide storage for equipment and not interfere with equipment loading and offloading operations.
- Have a dock/pier on site for deploying equipment.
- Have moorage available for vessels to aid the loading/offloading of personnel.

Staging areas for this facility are located at:

Main tank farm entrance adjacent to railroad tracks

7.1.6 Communications Plan

Company owned communications equipment and quantities commonly used to address response communications are listed below:

5 - computers
5 - cellphones
3 - landlines
2 - fax

Additional communications equipment (satellite phones, VHF portable radios with chargers and accessories, command post with UHF, VHF, single sideband, marine, aeronautical, telephone, and hard-line capability) may be provided by the Company or leased from a communications company in the area. Communications with government agencies, state police, and contractors can be conducted on portable radios. Refer to **FIGURE 7.1-3** for guidelines to setup communications.

The Communications Plan, written at the time of an incident, will identify telephone numbers and radio frequencies used by responders. This may also involve activation of multiple types of communications equipment and coordination among multiple responding agencies and contractors.

FIGURE 7.1-3 - COMMUNICATIONS CHECKLIST

Figure 7.1-3 - Communications Checklist	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Develop a Communications Plan.			
Ensure adequate phone lines per staff element - contact local provider.			
Ensure adequate fax lines - contact local provider.			
Evaluate need for internet access.			
Ensure recharging stations for cellular phones.			
VHF radio communications: • Establish frequencies. • Assign call signs. • Distribute radios. • Establish communications schedule.			
Ensure recharging stations for VHF radios.			
Determine need for VHF repeaters.			
Ensure copy machine available.			
Ensure communications resource accountability.			
Ensure responders have capability to communicate with aircraft.			

Note: Actions on this checklist may not be applicable or may be continuous activities.

7.2 PUBLIC AFFAIRS

This section contains guidelines for dealing with the media during an emergency. The Incident Commander will play a key role in providing the initial public assessment and taking the first steps to provide the Company's public response. Information in this section includes:

- Guidelines for dealing with the media
- Incident Fact Sheet (**FIGURE 7.2-1**)

7.2 PUBLIC AFFAIRS, CONTINUED

GUIDELINES FOR DEALING WITH THE MEDIA

- The Terminal or Regional Managers are the most logical person for reporters to seek out for information.
- Reporters will look elsewhere to find out what happened if you do not answer their questions; however, if you do not have this information or are not prepared to answer a particular question, say so then say when they can expect the answers to their questions (such as one hour).
- It is important to be courteous to all media representatives and to provide a safe place for them to wait until a Company representative can meet them; you may need to provide an initial statement.
- IMPORTANT: Notify Regional Management and/or Corporate Communications for guidance in addressing media inquires.

Provide	• A brief, general description of what happened. • Number of injured or killed, if known. • Steps being taken to handle the emergency.
Don't provide	• Names of deceased or seriously injured employees until the next of kin have been notified. • Speculation about the cause of the emergency. • Any statement implying personal or Company negligence. • Cost estimates of damage.
Other considerations	• Safety considerations should always receive priority in determining access to Company property. • Anticipate likely questions. • There are only six questions that can be asked about any subject: who, what, when, where, why, and how. • Keep answers short and understandable. Don't use industry jargon or acronyms. • Answer only the question that is asked by the reporter. • Give the most important facts first. • Talk to the public's concern about the incident such as whether these were deaths, injuries, any threat to the public, or danger of explosion or fire. • If you don't know the answer to a question, don't be afraid to say "I don't know"; make note of the question and tell the reporter that you will try to get the answer - then do it. Don't use the phrase "No Comment". • Don't be defensive. • There is no such thing as "Talking off the record"; assume that anything and everything you say to a reporter is going to be printed and/or used in the story. • Avoid "What If?" or speculative questions; these questions should be answered with a restatement of the problem and what is being done to control it. • Don't speculate about the cause of the incident. • Don't minimize the situation.

FIGURE 7.2-1 - INCIDENT FACT SHEET

What occurred:
When (time):
Where (location):
What are hazards:
How is the situation being handled:
How many people involved:
Confirmed injuries/fatalities:
Treatment location:
Name of injured (release only after next of kin are notified):
Name of fatalities (release only after next of kin are notified):
What agencies have been notified:
On scene? (yes/no):
Who is in charge:
Has outside help been requested:
Who:
On scene? (yes/no):
Is there danger to the plant:
Is there danger to the community:
What:
Is there an environmental hazard:
What is the environmental hazard:
What is being done to minimize environmental threat:
Is there a need for evacuation:

7.3 SITE SECURITY MEASURES

Due to the large amount of public attention created at an oil spill site, additional security measures are required. Several measures should be planned in advance to prepare security personnel for possible events that may occur at the spill site. A checklist for site security is provided in **FIGURE 7.3-1**. A model Incident Security Plan is provided in **SECTION 5.7**.

FIGURE 7.3-1 - SITE SECURITY CHECKLIST

Figure 7.3-1 - Site Security Checklist	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Restrict access to the facility.			
Direct traffic away from the spill area.			
Request assistance from the spill area.			
Request assistance from the sheriff department to: • Establish road blocks where necessary to secure the area. • Divert local traffic away from the spill area. • Provide access for spill response equipment and personnel.			
Coordinate rescue operations with the local fire department paramedics.			
Request the Federal On-Scene Coordinator ask the FAA to restrict air space over the safety zone.			
Contract for additional security personnel (as needed).			
Maintain strict control over all personnel and entering vehicular traffic.			
Position security personnel to effectively control non-response personnel.			
Barricade lesser traveled points with appropriate signs warning against entry.			
Establish check points at barricaded points to verify security effectiveness.			
Maintain a log that documents all security related incidents and observations made at the spill site.			
Establish a pass system and distribute pre-prepared security passes to all spill related personnel.			
Ensure all response equipment is safeguarded.			

FIGURE 7.3-2 - FACILITY SECURITY

FACTOR	DESCRIPTION
Emergency cut-off locations	Each of both docks has an emergency shut down switch. Dock P-2 has an electronic shut down and P-3 has a mechanical shutdown.

FIGURE 7.3-2 - FACILITY SECURITY, CONTINUED

FACTOR	DESCRIPTION
Enclosure	This facility is fully fenced. Terminal personnel monitor all persons entering the site 24 hours a day. All security gates are securely closed to prevent unauthorized entry. A security guard is stationed at the front gate from 06:30 to 15:30 (Monday- Friday). When security guard is not present, terminal operations monitor the gate via the intercom system located at the gate, which is connected to operation's phone/radio. The facility is also monitored via security cameras located throughout the facility.

FIGURE 7.3-2 - FACILITY SECURITY, CONTINUED

FACTOR	DESCRIPTION
Guards and their duties; day and night	Contract security 24/7 at main gate. All operators are trained in security duties.

FIGURE 7.3-2 - FACILITY SECURITY, CONTINUED

FACTOR	DESCRIPTION
Lighting	Lighting is provided throughout the tank farm to illuminate the piping connections at each storage tank and pump manifold areas. This lighting assists terminal personnel while working after dark. It also allows non-operating personnel such as truck drivers or police to determine if there are unauthorized persons within the storage tank areas. This lighting completely illuminates the areas where loading connections are made. The Company has installed lighting at all entrance gates and in the areas of the marine unloading dock.

FIGURE 7.3-2 - FACILITY SECURITY, CONTINUED

FACTOR	DESCRIPTION
Valve and pump locks	Piping and valves associated with storage tanks are configured such that product may only be discharged through the DOT pipeline system, tank truck loading rack or marine dock, except when emptying tank with portable pumping equipment. Post shut-down residual drainout from pipes and valves are minimized through the use of OSHA Lock Out Tag Out procedures. All pipes and valves are identified in isolation lists for each tank and line in this facility. The dispensing of petroleum products at the Facility are controlled by Company personnel and pre-authorized persons. Only drivers with pre-authorized access with certified trailer/tanker are authorized to load products into their trailer/tanker. All tank water draw-off valves are secured in the closed position and the entire facility is behind locked gates to prevent unauthorized access. These valves will remain closed except when discharging tank bottom water. The Company secures all gates and does not allow unauthorized access to the loading rack or marine dock. Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. Authorized persons must key in personal ID and company ID to gain access to the site and also to start pumping. Pump starter controls are not typically in a non-operating or non-standby status. If this situation occurs, the controls will be locked.

FIGURE 7.3-2 - FACILITY SECURITY, CONTINUED

FACTOR	DESCRIPTION
Pipeline connection caps	Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. The Company secures all gates and does not allow unauthorized access to the Facility at all time. When Facility piping, including loading/unloading connections, is not in service, all openings and connections are securely capped and/or blank flanged to prevent accidental discharge of petroleum products. Terminal personnel or other authorized persons inspect and assist in all loading of product at the facility.

7.4 WASTE MANAGEMENT

Initial oil handling and disposal needs may be overlooked in the emergency phase of a response, which could result in delays and interruptions of cleanup operations. Initially, waste management concerns should address:

- Equipment capacity,
- Periodic recovery of contained oil, and
- Adequate supply of temporary storage capacity and materials.

The following action items should be conducted during a spill response:

- Development of a Site Safety and Health Plan (**SECTION 5.4**) addressing the proper PPE and waste handling procedures.
- Development of a Disposal Plan (**SECTION 5.6**) in accordance with any federal, state, and/or local regulations. Facility-specific disposal locations for different types of materials are listed in **FIGURE 7.4-4**.
- Continuous tracking of oil disposition in order to better estimate amount of waste that could be generated over the short and long-term.
- Organization of waste collection, segregation, storage, transportation, and proper disposal.
- Minimization of risk of any additional pollution.
- Regulatory review of applicable laws to ensure compliance and (if appropriate) obtain permits.
- Documentation of all waste handling and disposal activities.
- Disposal of all waste in a safe and approved manner.

Good hazardous waste management includes:

- Reusing materials when possible.
- Recycling or reclaiming waste.
- Treating waste to reduce hazards or reducing amount of waste generated.

7.4 WASTE MANAGEMENT, CONTINUED

- The management of the wastes generated in cleanup and recovery activities must be conducted with the overall objective of ensuring:
    - Worker safety,
    - Waste minimization,
    - Cost effectiveness, and
    - Minimization of environmental impacts
- Proper disposal.
- Minimization of present and future environmental liability.

Solid wastes, such as sorbents, PPE, debris, and equipment will typically be transported from the collection site to a designated facility for:

- Storage
- Waste segregation
- Packaging
- Transportation

Once this process is complete, the waste will be shipped off-site to an approved facility for required disposal.

A general flow chart for waste management guidelines is provided in **FIGURE 7.4-1**. An overall checklist for containment and disposal is provided in **FIGURE 7.4-2**.

FIGURE 7.4-1 - WASTE MANAGEMENT FLOW CHART

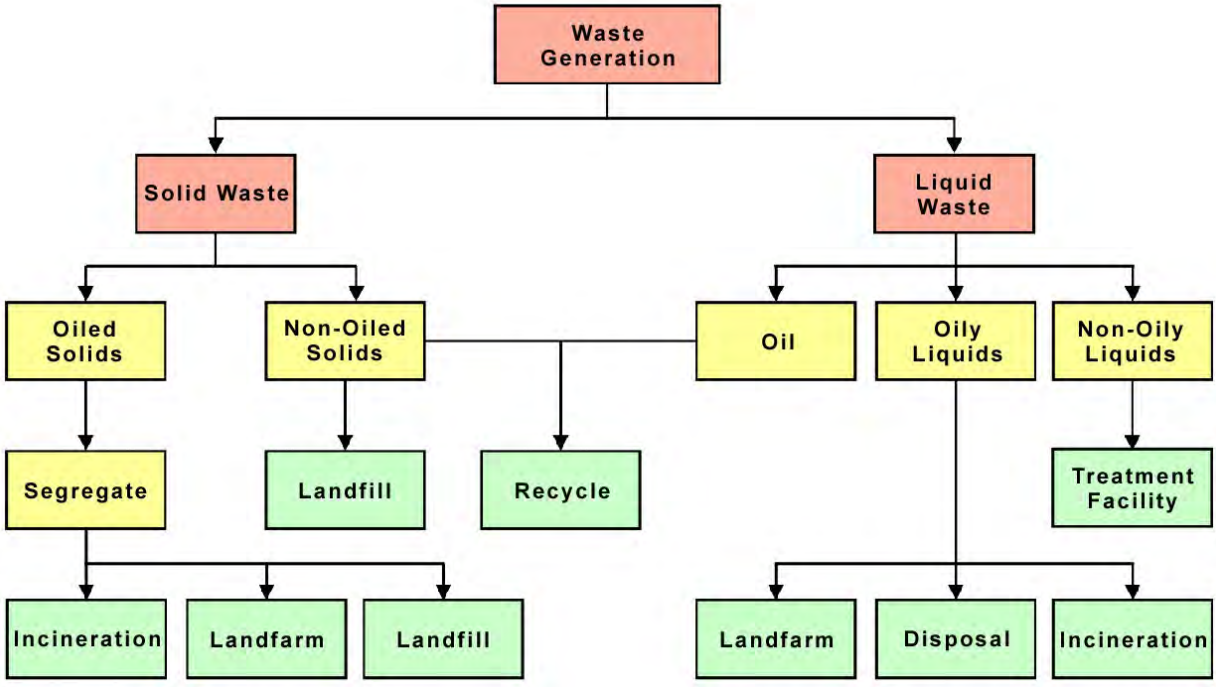

FIGURE 7.4-2 - GENERAL WASTE CONTAINMENT AND DISPOSAL CHECKLIST

Figure 7.4-2 - General Waste Containment and Disposal Checklist	YES/NO/NA
CONSIDERATION	
Is the material being recovered a waste or reusable product?	
Has all recovered waste been containerized and secured so there is no potential for further leakage while the material is being stored?	
Has each of the discrete waste streams been identified?	
Has a representative sample of each waste stream been collected?	
Has the sample been sent to an approved laboratory for the appropriate analysis, (i.e. hazardous waste determination)?	
Has the appropriate waste classification and waste code number(s) for the individual waste streams been received?	
Has a temporary EPA identification number and generator number(s) been received, if they are not already registered with EPA?	
Have the services of a registered hazardous waste transporter been contracted, if waste is hazardous?	
If the waste is nonhazardous, is the transporter registered?	
Is the waste being taken to an approved disposal site?	
Is the waste hazardous or Class I nonhazardous?	
If the waste is hazardous or Class I nonhazardous, is a manifest being used?	
Is the manifest properly completed?	
Are all federal, state, and local laws/regulations being followed?	
Are all necessary permits being obtained?	
Has a Disposal Plan been submitted for approval/review?	
Has PPE and waste-handling procedures been included in the Site Safety and Health Plan to protect the health and safety of waste handling personnel?	

7.4.1 Waste Storage

During an oil spill, the volume of oil that can be recovered depends on the storage capacity available. Typical short-term (temporary) storage methods are provided in **FIGURE 7.4-3**. If storage containers such as bags or drums are used, the container should be clearly marked and/or color-coded to indicate the type of material or waste contained and/or the ultimate disposal option.

Use of any site for storage is dependent on the approval of local authorities. The following elements affect the choice of a potential storage site:

- Geology
- Soil
- Surface water
- Covered materials
- Climatic factor
- Toxic air emissions
- Access
- Ground water
- Flooding
- Slope
- Capacity
- Land use
- Security
- Public contact

FIGURE 7.4-3 - TEMPORARY STORAGE METHODS

CONTAINMENT	PRODUCT						
	OIL	OIL/WATER	OIL/SOIL	OIL/DEBRIS (Small)	OIL/DEBRIS (Medium)	OIL/DEBRIS (Large)	CAPACITY
Drums	X	X	X				0.2-0.5 yd^3
Bags		X	X	X			1.0-2.0 yd^3
Boxes		X	X	X			1-5 yd^3
Open top rolloff	X	X	X	X	X	X	8-40 yd^3
Roll top rolloff	X	X	X	X	X	X	15-25 yd^3
Vacuum box	X	X					15-25 yd^3
Frac tank	X	X					500-20,000 gal
Poly tank	X	X					200-4,000 gal
Vacuum truck	X	X	X				2,000-5,000 gal
Tank trailer	X	X					2,000-4,000 gal
Barge	X	X					3,000+ gal
Berm, 4 ft		X	X	X	X	X	1 yd^3
Bladders	X	X					25-1,500 gal

7.4.2 Waste Transfer

In most oil spill response operations, it would be necessary to transfer recovered oil and oil debris from one point to another several times before the oil and oily debris are ultimately disposed of at a state approved disposal site. Depending on the location of response operations, any or all of the following transfer operations may occur:

- Directly into the storage tank of a vacuum device.
- Directly in to impermeable bags that, in turn, are placed in impermeable containers.
- From a vacuum device storage tank to a truck.
- From containers to trucks.
- From trucks to lined pits.
- From lined pits to incinerators and/or landfills.
- From a tank truck to a processing system (i.e., oil/water separator).
- From a processing system to a recovery system and or incinerator.
- From a skimming vessel or flexible bladder to a barge.
- From a barge to a tank truck.
- Directly into the storage tank on a dredge.
- From portable or vessel mounted skimmers into flexible bladder tanks, the storage tanks of the skimming vessel itself, or a barge.

Pumps
Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but they may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates.

The resultant emulsion would also be more difficult to separate into oil and water fractions. Lobe or "positive displacement" pumps work well on heavy, viscous oils, and do not emulsify the oil/water mixture. Double-acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

Vacuum Systems
Vacuum systems, such as air conveyors, vacuum trucks and portable vacuum units, may be used to transfer viscous oils and debris but they usually pick up a very high water/oil ratio.

Belt / Screw Conveyors
Conveyor may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris laden oil either horizontally or vertically for short distances but are bulky and difficult to operate.

Wheeled Vehicles
Wheeled vehicles may be used to transfer liquid waste of oily debris to storage or disposal sites. These vehicles are readily available but have a limited rate (i.e., 100 bbls) and require good site access.

7.4.3 Waste Disposal

In order to obtain the best overall Incident Disposal Plan, a combination of methods should be used. There is no template or combination of methods that can be used in every spill situation. Each incident should be reviewed carefully to ensure an appropriate combination of disposal techniques are employed.

The following is a brief description of some disposal techniques available for recovered oil and oily debris.

Recycling
Recycling involves processing discarded materials for another use.

Incineration
This technique entails the destruction of the recovered oil by high temperature thermal oxidation reactions. There are licensed incineration facilities as well as portable incinerators that may be brought to a spill site. Incineration may require the approval of the local Air Pollution Control Authority.

In-Situ Burning / Open Burning
Burning techniques entail igniting oil or oiled debris allowing it to burn under ambient conditions. These disposal techniques are subject to restrictions and permit requirements established by federal, state, and local laws. Permission for in-situ burning may be difficult to obtain when the burn takes place near populated areas.

As a general rule, in-situ burning would be appropriate only when atmospheric conditions will allow the smoke to rise several hundred feet and rapidly dissipate. Smoke from burning oil will normally rise until its temperature drops to equal the ambient temperature. Afterwards, it will travel in a horizontal direction under the influence of prevailing winds.

Landfill Disposal
This technique entails burying the recovered oil in a approved landfill in accordance with regulatory procedures. Landfill disposal of free liquids is prohibited by federal law in the United States.

FIGURE 7.4-4 - FACILITY-SPECIFIC DISPOSAL LOCATIONS

MATERIAL	DISPOSAL FACILITY	LOCATION
Recovered Product	Cowlitz Clean Sweep Clean Harbors Oil Re-refining Company	Cowlitz: 9420 NW St. Helens Road Portland, OR 97231 Attn: Scott Gilfillan Clean Harbors: 42 Longwater Drive Norwell, MA 02061 Oil Re-refining Company: 4150 N. Suttle Road Portland, OR 97217
Contaminated Soil	same as above	same as above
Contaminated Equipment	same as above	same as above
Personnel Protective Equipment	same as above	same as above
Decontamination Solutions	same as above	same as above
Adsorbents and Spent Chemicals	same as above	same as above

SECTION 8
DEMOBILIZATION / POST-INCIDENT REVIEW

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8.1 Terminating the Response

8.2 Demobilization

Figure 8.2-1 - Demobilization Checklist

8.3 Post-Incident Review

Figure 8.3-1 - Standard Incident Debriefing Form

8.3.1 Final Spill Cleanup Report

8.1 TERMINATING THE RESPONSE

- A team of federal, state, and Company personnel must certify that each area is clean before halting cleanup operations.
- Demobilize equipment and personnel at the first opportunity in order to reduce cost.
- Consider which resources should be demobilized first; for example, berthing expenses can be saved by demobilizing out-of-area contractors before local ones.
- Equipment may need both maintenance and decontamination before being demobilized.
- All facilities (staging area, Command Post, etc.) should be returned to their pre-spill condition before terminating operations.
- Determine what documentation should be maintained, where, and for how long.
- Contract personnel may be more susceptible to "suffering" injuries as they approach termination.
- Some activities will continue after the cleanup ends; examples include incident debriefing, bioremediation, NRDA studies, claims, and legal actions.
- Consider expressing gratitude to the community, police department, fire department, and emergency crews for their work during the response.

8.2 DEMOBILIZATION

The Company can reduce costs considerably by developing a Demobilization Plan (**SECTION 5.8**). Therefore, emphasis must be placed on establishing efficient demobilization procedures. A Demobilization Checklist is provided in **FIGURE 8.2-1**.

FIGURE 8.2-1 - DEMOBILIZATION CHECKLIST

Figure 8.2-1 - Demobilization Checklist	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Assign personnel to identify surplus resources and probable release times.			
Establish demobilization priorities.			
Develop decontamination procedures.			
Initiate equipment repair and maintenance.			
Develop a Disposal Plan.			
Identify shipping needs.			
Identify personnel travel needs.			
Develop impact assessment and statements.			
Obtain concurrence of Planning and Operations Group Leaders before release of personnel or equipment.			

8.3 POST-INCIDENT REVIEW

All Facility personnel involved in the incident shall be debriefed (by the Company) within two weeks after termination of operations. A Standard Incident Debriefing Form is provided in **FIGURE 8.3-1**. The primary purpose of the post-incident review is to identify actual or potential deficiencies in the Plan and determine the changes required to correct the deficiencies. The post-incident review also is intended to identify which response procedures, equipment, and techniques were effective and which were not and the reason(s) why. This type of information is very helpful in the development of a functional Plan by eliminating or modifying those response procedures that are less effective and emphasizing those that are highly effective. This process should also be used for evaluating training drills or exercises. Key agency personnel that were involved in the response will be invited to attend the post-incident review.

Debriefs with participating agencies and organizations may be appropriate if unified command has been established during a spill and are required when significant Plan updates are identified or significant lessons can be recorded and implemented.

FIGURE 8.3-1 - STANDARD INCIDENT DEBRIEFING FORM

Name of incident:
Date:
PERSONNEL DEBRIEFED
Name:
Normal duty:
Summary of duties performed during incident (list date, time, and location):
Positive aspects of the response:
Aspects of the response which could be improved:
Name:
Title:
Signature:

8.3.1 Final Spill Cleanup Report

A final, comprehensive report shall be prepared by the Incident Commander or designee and forwarded to the Administrator within 90 days after completion of spill cleanup activities for internal use. It should be written in the narrative form and include the information listed below (as appropriate):

- Name, address, and telephone number of the owner or operator.
- Name, address, and telephone number of the Facility.
- Time, location, and date of discharge.
- Type of material discharged.
- Quantity discharged (indicate volume, color, length and width of slick, and rate of release, if continuous).
- Source of spill (tank, flowline, etc.) in which the oil was originally contained, path of discharge, and impact area.
- Detailed description of what actually caused the discharge and actions taken to control or stop the discharge.
- Estimated quantity and disposition of recovered material that resulted from the incident.
- Description of actual or potential hazards to human health or the environment.
- Steps taken to clean up the spilled oil along with dates and times steps were taken.
- The equipment used to remove the spilled oil, dates, and number of hours equipment was used.
- The number of persons employed in the removal of oil from each location, including their identity, employer, and the number of hours worked at that location.
- The extent of injuries, if any.
- Actions by the Company or contractors to mitigate damage to the environment.
- Measures taken by the Company or contractors to prevent future spills.
- The federal and state agencies to which the Company or contractors reported the discharge; show the agency, its location, the date and time of notification, and the official contacted.
- Description of the effectiveness of equipment and cleanup techniques and recommendations for improvement.
- The names, addresses, and titles of people who played a major role in responding to the event.
- A section identifying problems and deficiencies noted during the response event; a follow-up section should include recommended procedure modifications to make a future response more effective and efficient.
- All other relative information.
- A final signature as follows:

The above information is true to the best of my knowledge and belief:

Name:
Title:
Signature:
Date:

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APPENDICES

A. TRAINING / EXERCISES

B. CONTRACTOR RESPONSE EQUIPMENT

C. SPCC PLANS

D. HAZARD EVALUATION AND RISK ANALYSIS

E. CROSS-REFERENCES

F. ACRONYMS AND DEFINITIONS

G. ADDITIONAL INFORMATION

APPENDIX A
TRAINING / EXERCISES

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A.1 Exercise Requirements and Schedules

Figure A.1-1 - PREP Response Plan Core Components

Figure A.1-2 - Exercise Requirements

Figure A.1-3 - Incident/Drill/Exercise Documentation Form

Figure A.1-4 - EPA Required Response Equipment Testing and Deployment Drill Log

Figure A.1-5 - Form 2203 - QI Notification Exercise Form

Figure A.1-6 - Incident Management Team Tabletop

A.2 Training Program

Figure A.2-1 - Training Requirements

Figure A.2-2 - Training Program Matrix

Figure A.2-3 - Personnel Response Training Log

A.3 Additional Programs

A.3.1 Alcohol and Drug Program

A.1 EXERCISE REQUIREMENTS AND SCHEDULES

- The Company participates in the National Preparedness for Response Exercise Program (PREP).
- During each triennial cycle, all components of the Plan (**FIGURE A.1-1**) must be exercised at least once.
- The Training Manager is responsible for the following aspects:
    - Scheduling,
    - Maintaining records,
    - Implementing,
    - Evaluation of the Company's training and exercise program, and
    - Post-drill evaluation improvements.
- **FIGURE A.1-2** provides descriptions of exercise requirements, **FIGURE A.1-3** provides a Spill/Exercise Documentation form or a corresponding Company form may be used, and **FIGURE A.1-4** provides a log for response equipment testing and deployment drill.

FIGURE A.1-1 - PREP RESPONSE PLAN CORE COMPONENTS

CORE COMPONENTS	DESCRIPTION
1. Notifications	Test the notifications procedures identified in the response plan being exercised.
2. Staff mobilization	Demonstrate the ability to assemble the spill response organization identified in the response plan being exercised.
3. Ability to operate within the response management system described in the Plan: • Unified Command • Response management system	Demonstrate the ability of the response organization to work within a unified command. Demonstrate the ability of the response organization to operate within the framework of the response management system identified in their respective plans.
4. Source control	Demonstrate the ability of the response organization to control and stop the discharge at the source, and to effectively coordinate source control activities within the response management system used for the overall incident.
5. Assessment	Demonstrate the ability of the response organization to provide an initial assessment of the discharge or potential discharge and provide continuing assessments of the effectiveness of the tactical planning.
6. Containment	Demonstrate the ability of the response organization to contain the discharge at the source or in various locations for recovery operations.
7. Mitigation	Demonstrate the ability of the response organization to mitigate the discharged product through the use of oil spill countermeasures, including, but not limited to, dispersants, in-situ burning, and bioremediation, in addition to mechanical oil recovery.
8. Protection	Demonstrate the ability of the response organization to protect the environmentally and economically sensitive areas identified in the ACP and the respective industry response plan.
9. Disposal	Demonstrate the ability of the response organization to dispose of the recovered material and contaminated debris.
10. Communications	Demonstrate the ability to establish an effective communications system for the response organization.
11. Transportation	Demonstrate the ability to provide effective multimode transportation, both for execution of the discharge and support functions.
12. Personnel support	Demonstrate the ability to provide the necessary logistical support of all personnel associated with response.
13. Equipment maintenance and support	Demonstrate the ability to maintain and support all equipment associated with the response.
14. Procurement	Demonstrate the ability to establish an effective procurement system.
15. Documentation	Demonstrate the ability of the response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

FIGURE A.1-2 - EXERCISE REQUIREMENTS

DRILL/EXERCISE TYPE	DRILL/EXERCISE CHARACTERISTICS
Internal phone number verification	• Company will test and document internal call out procedures at least once every 90 calendar days.
Facility / QI notification	• Conducted quarterly. • The HSE Department initiates mock spill notification to QI. • The HSE Department documents time/date of notification, name, and phone number of individual contacted. • Document in accordance with electronic Training / Drill / Exercise Tool. • At least one notification must be conducted after hours.
Equipment deployment	• Conducted semiannually. • Response contractors listed in the plan must participate in annual deployment drill/exercise. • A drill/exercise where response equipment is deployed to a specific site and operated in its normal operating medium. • Document in accordance with form in **FIGURE A.1-3**.
EMT tabletop	• Conducted annually. • Tests EMT's response activities/responsibilities. • Documents Plan's effectiveness. • Must drill/exercise worst case discharge scenario once every three years. • Must test all Plan components at least once every three years • Document in accordance with form in **FIGURE A.1-3**.
Unannounced	• Company will either participate in unannounced tabletop drill/exercise or equipment deployment drill/exercise on an annual basis, if selected. • Company may take credit for participation in government-initiated unannounced drill/exercise in lieu of drill required by PREP guidelines. • Plan holders who have participated in a PREP government-initiated unannounced drill/exercise will not be required to participate in another one for at least 36 months from the date of the drill/exercise.
Area	• An industry plan holder that participates in an Area Drill/Exercise would not be required to participate in another Area Drill/Exercise for a minimum of six years.
OTHER DRILL/EXERCISE CONSIDERATIONS	
Drill program evaluation procedures	• Company conducts post-drill/exercise meetings to discuss positive items, areas for improvement, and to develop action item checklist to be implemented later.
Records of drills/exercises	• Company will maintain drill/exercise records for five years following completion of each drill/exercise. • Records will be maintained at the terminal via company electronic documentation system. • Company will verify appropriate records are kept for each spill response contractor listed in Plan as required by PREP guidelines (annual equipment deployment drill/exercise, triennial unannounced drill/exercise, etc.).
Oregon Department of Environmental Quality notification	• Company will send post drill/exercise reports for all tabletop exercises or deployment drills/exercises to the Oregon Department of Environmental Quality no later than 60 days after the completion of the drill or exercise. The executive summary from a National Preparedness for Response Exercise Program (N-PREP) report may be submitted to meet this requirement when the drill/exercise has been designed by the N-PREP staff. • Company will notify the Department of drills and exercises, at least 60 days before full deployment and tabletop drills/exercises, and 10 days prior to equipment drills/exercises. • Prior notice to the Department is not required before notification drills and internal phone number verification drills/exercises.

FIGURE A.1-3 - INCIDENT/DRILL/EXERCISE DOCUMENTATION FORM

Retain this form for a minimum of five years. (Other versions of this form may be used).

1. Date(s) performed:					
2. ☐ Drill/Exercise ☐ Actual spill					
If drill/exercise: ☐ Announced ☐ Unannounced		☐ Deployment	☐ Notification	☐ Tabletop	
If drill/exercise, frequency: ☐ Quarter	☐ 1st	☐ 2nd	☐ 3rd	☐ 4th	☐ Annual
3. Location of drill/exercise/spill:					
4. Time started:					
5. Description of scenario or spill including volume and content (crude oil, condensate, etc.)					
6. Describe how the following objectives were exercised:					

Team's knowledge of the Oil Spill Response Plan:	**Yes**	**No**
Was briefing meeting conducted	☐	☐
Established field Command Post	☐	☐
Confirmed source was stopped	☐	☐
Developed Site Safety and Health Plan	☐	☐
Prepared ICS 201	☐	☐
Established work zones and perimeter security	☐	☐
Developed short range tactical plan	☐	☐
Developed long range tactical plan	☐	☐
Proper Notifications:		
Qualified Individual (or designee)	☐	☐
EHS&T Department	☐	☐
Release/Spill Report Form completed	☐	☐
Notification to agencies completed (attach log)	☐	☐
Transportation/Communication System:		
Established primary/secondary communication system	☐	☐
Primary: cellular phone ☐ two way radio ☐ land telephone line ☐		
Secondary: cellular phone ☐ two way radio ☐ land telephone line ☐		
☐ Other		

FIGURE A.1-3 - INCIDENT/DRILL/EXERCISE DOCUMENTATION FORM, CONTINUED

Transportation/Communication System, Continued:		
	Yes	No
Motor vessel deployed	☐	☐
Provider name:		
Helicopter/Sea plane deployed	☐	☐
Call sign:		
Describe function (i.e., transportation, surveillance, dispersant application):		
Ability to access contracted Oil Spill Removal Organizations (OSROs):		
Who contacted - (name of individual and OSRO):		
When contacted:		
Response time projection for deployment:		
Type and amount of containment used:		
Spill material recovered	☐	☐
Spilled material disposed	☐	☐
Where?		
Ability to coordinate spill response with on-scene coordinator, state, and applicable agencies:		
Was regulatory on-scene coordinator(s) contacted	☐	☐
List person and agency represented:		
Ability to access sensitive site and resource information in the Area Contingency Plan (ACP):		
Was pre-impact assessment conducted?	☐	☐
Were pre-impact samples taken?	☐	☐
Were pre-impact photographs taken?	☐	☐
Were NRDA specialists mobilized?	☐	☐
Were deficiencies identified?	☐	☐
If yes, changes implemented?	☐	☐
If no, why were changes not implemented?		

LESSONS LEARNED	PERSON RESPONSIBLE FOR FOLLOW-UP OF CORRECTIVE MEASURES

Name:
Position:
Certifying Signature:

FIGURE A.1-4 - EPA REQUIRED RESPONSE EQUIPMENT TESTING AND DEPLOYMENT DRILL LOG

(Other versions of this form may be used)

Item:	Date of Last Update:
ACTIVITY	**INFORMATION**
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill/exercise date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	**INFORMATION**
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill/exercise date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	**INFORMATION**
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill/exercise date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	**INFORMATION**
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill/exercise date	
Deployment frequency	
OSRO Certification (if applicable)	

FIGURE A.1-5 - FORM 2203 - QI NOTIFICATION EXERCISE FORM

QUARTERLY NOTIFICATION EXERCISE - INTERNAL USE

1. **DATE PERFORMED:** _____

2. **EXERCISE OR ACTUAL RESPONSE?** _____

3. **FACILITY OR PIPELINE EXERCISE:** _____

4. **EMERGENCY SCENARIO (or Description of Exercise):**
   _____
   _____
   _____

5. **NAME OF PERSON NOTIFIED:** _____

   IS THIS PERSON IDENTIFIED AS THE QUALIFIED INDIVIDUAL OR DESIGNEE? _____

6. **TIME INITIATED:** _____

   TIME WHICH QUALIFIED INDIVIDUAL OR DESIGNEE RESPONDED_____

7. **METHOD USED TO CONTACT:**

   ☐ **TELEPHONE**
   ☐ **PAGER**
   ☐ **RADIO**
   ☐ **OTHER:**_____

8. **DESCRIPTION OF NOTIFICATION PROCEDURE:**

9. **IDENTIFY WHICH OF THE 15 CORE COMPONENTS OF YOUR RESPONSE PLAN WERE EXERCISED DURING THIS PARTICULAR EXERCISE:** _____

10. **EVALUATION:** _____
    _____
    _____

11. **CHANGES TO BE IMPLEMENTED:** _____
    _____
    _____

12. **TIME TABLE FOR IMPLEMENTATION:**
    _____

CERTIFYING SIGNATURE: _____

RETAIN THIS FORM FOR A MINIMUM OF 3 YEARS (USCG/RSPA/MMS) OR 5 YEARS (EPA).
IF ADDITIONAL SPACE REQUIRED, USE SEPARATE SHEET.

40 CFR 112 Appendix F Section 1.8.2.1
National Preparedness for Response Exercise Program (PREP) Guidelines

Original: 10/20/2003
Revised: 2/18/2004, 7/17/2006, 3/5/07, 6/18/2007, 7/24/2007, 10/19/2007, 02/11/08, 12/17/12

FIGURE A.1-5 - FORM 2203 - QI NOTIFICATION EXERCISE FORM, CONTINUED

15 RESPONSE PLAN CORE COMPONENTS

During each triennial cycle, all components of a plan holder's response plan must be exercised at least once. The purpose of this requirement is to ensure that all plan components function adequately for response to an oil spill.

CHECK EACH CORE COMPONENT USED IN EXERCISE.

1. ____ **NOTIFICATIONS:** Test the notifications procedures identified in the Facility Response Plan.

2. ____ **Staff Mobilization:** Demonstrate the ability to assemble the response organization identified in the Facility Response Plan.

3. ____ **Ability to operate within the Response Management System described in the plan: (INCIDENT COMMAND SYSTEM).**

4. ____ **Discharge Control:** Demonstrate the ability of the response organization to control and stop the discharge at the source.

5. ____ **Assessment:** Demonstrate the ability of the response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations.

6. ____ **Containment:** Demonstrate the ability of the response organization to contain the discharge at the source or in various locations for recovery operations.

7. ____ **Mitigation:** Demonstrate the ability of the response organization to recover the discharged product.

8. ____ **Protection:** Demonstrate the ability of the response organization to protect the environmentally and economically sensitive areas identified in the Area Contingency Plan and the respective industry response plan.

9. ____ **Disposal:** Demonstrate the ability of the response organization to dispose of the recovered material and contaminated debris.

10. ____ **Communications:** Demonstrate the ability to establish an effective communications system for the response organization.

11. ____ **Transportation:** Demonstrate the ability to provide effective multi-mode transportation both for execution of the discharge and support functions.

12. ____ **Personnel Support:** Demonstrate the ability to provide the necessary support of all personnel associated with the response.

13. ____ **Equipment Maintenance and Support:** Demonstrate the ability to maintain and support all equipment associated with the response.

14. ____ **Procurement:** Demonstrate the ability to establish an effective procurement system.

15. ____ **Documentation:** DDemonstrate the ability of the response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

DATE: _____ **CERTIFYING SIGNATURE:** _____

Original: 10/20/2003
Revised: 2/18/2004, 7/17/2006, 3/5/07, 6/18/2007, 7/24/2007, 10/19/2007, 02/11/08, 12/17/12, 12/15/20

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP

Fulfills Training and Exercise Requirements for:
EPA - 40 CFR §112.21 & Appendix F 1.8.2.2
USCG - 33 CFR §154.1055
DOT - 49 CFR §194.107

Name (PRINTED)**:** _____ **Date:** _____

Participant's Facility Location: _____

Location of Tabletop: _____

Exercise Initiated By: _____

INTRODUCTION / OBJECTIVES / GROUND RULES

INTRODUCTION

You will be participating in a tabletop exercise that will allow you to consider NuStar Energy L.P. and their response organizations' abilities to prevent and respond to oil spills.

OBJECTIVES

Overall objectives of this exercise include:

- Enhance the ability to utilize the Integrated Contingency Plan (ICP) to respond and coordinate emergency management.
- Make timely internal and external notifications.
- Learn how to better respond to oil spills.

In addition to the overall objectives, some of the fifteen (15) core components listed in the PREP Guidelines will be addressed to some extent in this tabletop exercise.

The fifteen (15) core components, as listed in the PREP Guidelines, are as follows:

1. Notifications	6. Containment	11. Transportation
2. Staff Mobilization	7. Mitigation	12. Personnel Support
3. Ability to Operate Within the Response Management System Described in the Plan	8. Protection	13. Equipment Maintenance and Support
4. Discharge Control	9. Disposal	14. Procurement
5. Assessment	10. Communications	15. Documentation

GROUND RULES AND TIPS FOR PARTICIPANTS

Treat these situations as real and participate. Asking questions and sharing thoughts is strongly encouraged. Issues and procedures arising will be thoroughly discussed.

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

SPILL SCENARIO

DATE: _____ **TIME:** _____

QI: _____

WEATHER CONDITIONS:

☐ Clear ☐ Snow

☐ Overcast ☐ Blizzard

☐ Light Rain ☐ Fog

☐ Heavy Rain

☐ Thunder Storm

Wind Speed: _____

Wind Direction: _____

Humidity: _____

Air Temperature: _____

LOCATION:

_____

_____

PRODUCT AND QUANTITY:

☐ Gasoline	_____ gal./bbl.	☐ Asphalt	_____ gal./bbl.
☐ #2 Fuel Oil	_____ gal./bbl.	☐ Crude Oil	_____ gal./bbl.
☐ Jet Fuel Kerosene	_____ gal./bbl.	☐ Propane	_____ gal./bbl.
☐ Diesel	_____ gal./bbl.	☐ Ammonia	_____ gal./bbl.
☐ #6 Fuel Oil	_____ gal./bbl.	☐ Other	_____ gal./bbl.

EMERGENCY SCENARIO:

_____

_____

_____

_____

_____

_____

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

INCIDENT BRIEFING (ICS 201)

1. Incident Name	2. Incident Number	3. Date/Time Initiated Date: Time:
4. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment):		
5. Situation Summary and Health and Safety Briefing (for briefings or transfer of command): Recognize potential incident Health and safety Hazards and develop necessary measures (remove hazards, provide protective equipment, warn people of the hazard) to protect responders from those hazards.		
6. Prepared By: Name: _____ Position/Title: _____ Signature:		
ICS 201, Page 1	**Date/Time:**	

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

INCIDENT BRIEFING (ICS 201)

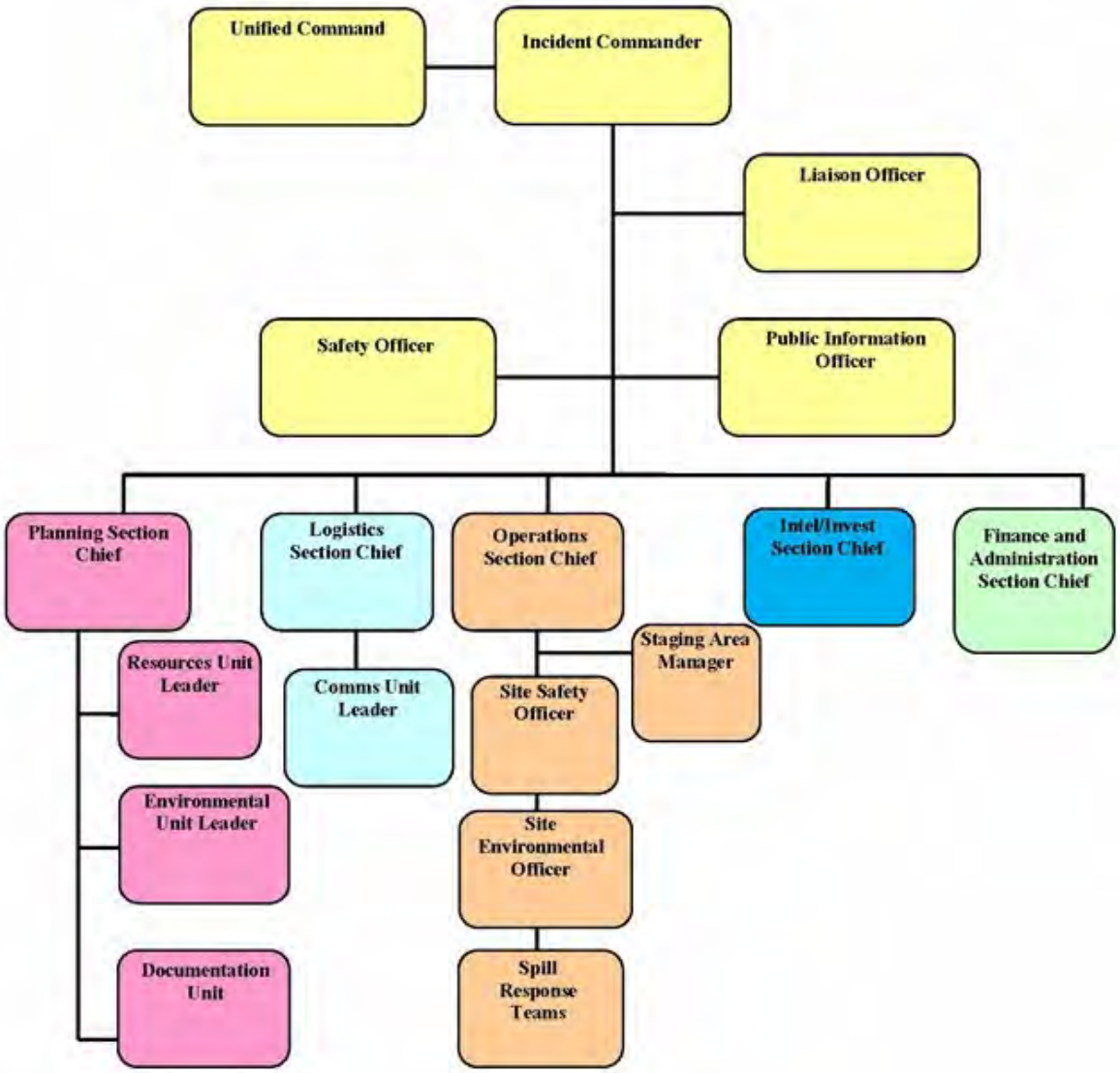
1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:
7. Current and Planned Objectives:		
8. Current and Planned Actions, strategies, and Tactics:		
Time:	Actions:	
6. Prepared By: Name: _____ Position/Title: _____ Signature:		
ICS 201, Page 2	Date/Time:	

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

9. Current Organization (fill in additional organization as appropriate):



6. Prepared By: Name: _____ Position/Title: _____ Signature:	
ICS 201, Page 3	Date/Time:

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

10. Resources Summary:

Resource	Resource Identifier	Date/Time Ordered	ETA	Arrived	Notes: (location/assignment/status)
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
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				☐	
				☐	
				☐	
				☐	
				☐	
				☐	

6. Prepared By: Name: _____ Position/Title: _____ Signature:

ICS 201, Page 4	Date/Time:

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

TABLETOP DRILL DISCUSSION QUESTIONS

1. **NOTIFICATIONS**
   a. Who is responsible for making notifications?
   b. What internal notifications should be made?
   c. What external notifications should be made?
   d. What information should you have to make external notifications?

2. **INITIAL RESPONSE**
   a. Who is on scene first?
   b. Who is the Incident Commander?
   c. What initial actions should be taken and by who?
   d. Who estimates the size of the spill? How?
   e. Which facility employees are on duty?
   f. What are your primary concerns and objectives?
   g. Where do you log this information?
   h. How will the facility work with the Incident Command?
   i. How quickly can the spill management team respond to the incident?
   j. How quickly can other members of the spill management team respond?

3. **INCIDENT COMMAND SYSTEM**
   a. Where should the Incident Command Post be located?
   b. Fill out the form ICS 201 and the organizational chart.
   c. Who are the Federal and State On-Scene Coordinators?
   d. What are the spill management team's priorities and objectives? How will you meet your priorities and objectives? Develop ICS Form 202.
   e. What is the facility's role in managing this incident? What roles do the federal, state, and local governments play?

4. **ENVIRONMENTAL SENSITIVITIES**
   a. What environmentally sensitive areas will this spill affect?
   b. How will these areas be protected?
   c. Are there any threatened or endangered species in the area?
   d. If the material flows into water, are there downstream water concerns?
   e. Are there economic, cultural, or other resources in the path of the spill?

5. **RESOURCES**
   a. Who is responsible for getting resources to the site?
   b. Where can these resources be obtained?
   c. How will the spill management team track these resources?
   d. How will responders be protected?
   e. What are the telecommunications needs?

6. **PLANNING**
   a. How will recovered product be stored, treated, and disposed? How will debris from the cleanup be handled?
   b. What are the public relations and media concerns?
   c. How should the SMT plan for an extended clean-up? Are 24-hour operations necessary?
   d. How will claims be handled?

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

TABLETOP EXERCISE DEBRIEF FORM

DON'T FEEL LIMITED IN YOUR RESPONSES. IF SOME AREA IS HANDLED PARTICULARLY WELL, IT'S GOOD TO GIVE YOUR TEAM CREDIT! ON THE OTHER HAND, IF SOMETHING OBVIOUSLY COULD BE IMPROVED UPON, YOUR TEAM WILL BENEFIT FROM THE LESSONS LEARNED.

LESSONS LEARNED

Step 1. List the Top three (3) Things That Went Well:

1) _____
_____

2) _____
_____

3) _____
_____

Step 2. List the Top THREE (3) Things That Need Improvement:

	Needs Improvement/ Corrective Measure	Person Responsible for Ensuring Completion of Corrective Measures	Time Table for Improvement Initiation
1)			
2)			
3)			

FIGURE A.1-6 - INCIDENT MANAGEMENT TEAM TABLETOP, CONTINUED

INTERNAL EXERCISE EVALUATION FORM

1. Date(s) performed:
2. Drill Type:
   ☐ Exercise ☐ Announced ☐ Unannounced
   ☐ Actual Event
3. Location of exercise:
4. Time started: Time completed:
5. Time started:

   ☐ Average Most Probable Discharge ☐ Maximum Most Probable Discharge ☐ Worst Case Discharge

   Size of (simulated) spill _____ Bbls./gals.
6. Describe how the following objectives were exercised:

   a. Response Team's knowledge of oil spill response plan:
   _____
   _____

   b. Proper notifications:
   _____
   _____

   c. Communications System
   _____
   _____

   d. Response Team's ability to access contracted OSRO:
   _____
   _____

   e. Response Team's ability to coordinate spill response with OSC, state and applicable agencies:
   _____
   _____

   f. Response Team's ability to access sensitive site information in Area Contingency Plan:
   _____
   _____
7. Identify which of the 15 core components of your response plan were exercised:
   _____
8. Attach description of lesson(s) learned.

Name (PRINTED): _____

Certifying Signature: _____ Date: _____

Retain this form for a minimum of 3 years (for USCG/PHMSA/MMS) or 5 years (for EPA).

A.2 TRAINING PROGRAM

FIGURE A.2-1 provides training requirements for spill responders. **FIGURE A.2-2** provides the program matrix. **FIGURE A.2-3** provides a personnel response training log.

FIGURE A.2-1 - TRAINING REQUIREMENTS

TRAINING TYPE	TRAINING CHARACTERISTICS
Training in use of spill response plan	• All field personnel will be trained to properly report/monitor spills. • Plan will be reviewed annually with all employees and contract personnel. • The Personnel Response Training Log is located in **FIGURE A.2-3**.
OSHA training requirements	• All Company responders designated in Plan must have 24 hours of initial spill response training. • Laborers having potential for minimal exposure must have 24 hours of initial oil spill response instruction and eight hours of actual field experience. • Responders having potential exposure to hazardous substances at levels exceeding permissible exposure limits must have 40 hours of initial training offsite and 24 hours of actual field experience. • On-site management/supervisors required to receive same training as equipment operators/general laborers plus eight hours of specialized hazardous waste management training. • Managers/employees require eight hours of annual refresher training.
Spill management team personnel training	• See recommended PREP Training Matrix (**FIGURE A.2-2**).
Training for casual laborers or volunteers	• Company will not use casual laborers/volunteers for operations requiring HAZWOPER training.
Wildlife	• Only trained personnel approved by USFWS and appropriate state agency will be used to treat oiled wildlife.
Training documentation and record maintenance	• Training activity records will be retained for five years for all personnel following completion of training. • Company will retain training records indefinitely for individuals assigned specific duties in the Plan. • Training records will be maintained at the Corporate Headquarters

FIGURE A.2-2 - TRAINING PROGRAM MATRIX

TRAINING ELEMENT	QUALIFIED INDIVIDUAL (QI)	EMERGENCY RESPONDERS including Incident Management Team (IMT), and Regional Response Team (RRT)	FACILITY PERSONNEL
Captain of the Port (COTP) Zones or Environmental Protection Agency (EPA) Regions in which the facility is located	x	x	x
Notification procedures and requirements for facility owners or operators, internal response organizations, federal and state agencies, and contracted oil spill removal organizations (OSROs) and the information required for those organizations	x	x	x
Communication system used for the notifications	x	x	x
Information on the products stored, used, or transferred by the facility, including familiarity with the material safety data sheets (MSDS), special handling procedures, health and safety hazards, spill and fire fighting procedures	x	x	x
Procedures the facility personnel may use to mitigate or prevent any discharge or a substantial threat of a discharge of oil resulting from facility operational activities associated with internal or external cargo transfers, storage, or use	x		
Facility personnel responsibilities and procedures for use of facility equipment which may be available to mitigate or prevent an oil discharge	x	x	x
Operational capabilities of the contracted OSROs to respond small, medium, and large discharges	x	x	x
Responsibilities and authority of the Qualified Individual (QI) as described in the Spill Response Plan and Company response organization	x	x	x
The organization structure that will be used to manage the response actions including: • Command and control • Public information • Safety • Liaison with government agencies • Spill response operations • Planning • Logistics support • Finance	x	x	x
The responsibilities and duties of each Incident Response Team (IMT) within the organization structure	x	x	
The drill and exercise program to meet federal and state regulations as required under Oil Pollution Act of 1990 (OPA90)	x	x	x
The role of the QI in the post discharge review of the Plan to evaluate and validate its effectiveness	x		
The Area Contingency Plan (ACP) for the area in which the facility is located	x	x	x
The National Contingency Plan (NCP)	x	x	x
Roles and responsibilities of federal and state agencies in pollution response	x	x	x

FIGURE A.2-2 - TRAINING PROGRAM MATRIX, CONTINUED

TRAINING ELEMENT	QUALIFIED INDIVIDUAL (QI)	EMERGENCY RESPONDERS including Incident Management Team (IMT), and Regional Response Team (RRT)	FACILITY PERSONNEL
Available response resources identified in the Plan	x	x	
Contracting and ordering procedures to acquire OSRO resources identified in the Plan	x	x	
OSHA requirements for worker health and safety (29 CFR 1910.120)	x	x	x
Incident Command System/Unified Command System	x	x	
Public affairs	x	x	
Crisis management	x	x	
Procedures for obtaining approval for dispersant use or in-situ burning of the spill	x		
Oil spill trajectory analyses	x		
Sensitive biological areas	x	x	
This training procedure as described in the Plan for members of the IMT		x	
Procedures for the post discharge review of the plan to evaluate and validate its effectiveness		x	
Basic information on spill operations and oil spill cleanup technology including: • Oil containment • Oil recovery methods and devices • Equipment limitations and uses • Shoreline cleanup and protection • Spill trajectory analysis • Use of dispersants, in-situ burning, bioremediation • Waste storage and disposal considerations		x	
Hazard recognition and evaluation		x	
Site safety and security procedures		x	
Personnel management, as applicable to designated job responsibilities		x	
Procedures for directing the deployment and use of spill response equipment, as applicable to designated job responsibilities		x	x
Specific procedures to shut down effected operations			x
Procedures to follow in the event of discharge, potential discharge, or emergency involving the following equipment or scenarios: • Tank overfill • Tank rupture • Piping or pipeline rupture • Piping or pipeline leak, both under pressure or not under pressure, if applicable • Explosion or fire • Equipment failure • Failure of secondary containment system			x
QI's name and how to contact him or her			x

FIGURE A.2-3 - PERSONNEL RESPONSE TRAINING LOG

Training records are maintained at the terminal office (Other versions of this form may be used).

NAME	RESPONSE TRAINING/DATE AND NUMBER OF HOURS	PREVENTION TRAINING/DATE AND NUMBER OF HOURS
	Training records are available through NuTeach or Appendix A	Training records are available through NuTeach or Appendix A

*Qualified Individual

A.3 ADDITIONAL PROGRAMS

A.3.1 Alcohol and Drug Program

The Company has developed and implemented an Alcohol and Drug Program that provides for the random testing of all DOT governed NuStar employees. Contractors are included in a separate consortium that provides their random testing. These programs both also offer rehabilitation, treatment and follow-up testing for workers who seek assistance or who are found to be out of compliance. The program is run under complete confidentiality and is aimed at providing a drug-free workplace.

APPENDIX B
CONTRACTOR RESPONSE EQUIPMENT

Last Revised: October 13, 2021

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B.1 Cooperatives and Contractors

B.1.1 OSRO Classification

Figure B.1-1 - Evidence of Contracts and Equipment Lists

B.1 COOPERATIVES AND CONTRACTORS

The Company has contracted with additional Oil Spill Removal Organizations (OSROs) to provide personnel and equipment in the event of a spill. The classification, response capabilities, and equipment are described below.

B.1.1 OSRO Classification

The OSRO classification process was developed by the U.S. Coast Guard (USCG) to provide guidelines to enable USCG and plan preparers to evaluate an OSRO's potential to respond to oil spills. Plan holders that utilize USCG classified OSRO services are not required to list response resources in their plans.

The following is a listing of the USCG classified OSROs that may respond to incidents for areas listed in this Plan. For a detailed listing of USCG classified OSROs and other contractors by terminal, refer to **FIGURE 3.1-6** and **FIGURE 7.1-1**.

<table>
<tr><th>COMPANY / CONTRACTOR / TERM</th><th>APPLICABLE COTP ZONE (S)</th><th>USCG CLASSIFICATIONS</th><th>RESPONSE TIME</th></tr>
<tr><td>Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc

Office Address:
200 S. W. Market #190
Portland , OR 97201

Physical Address:
5882 NW St Helens Rd
Portland, OR 97210</td><td>Portland</td><td>
<table>
<tr><th></th><th colspan="4">Facilities</th><th colspan="4">Vessels</th></tr>
<tr><th></th><th>MM</th><th>W1</th><th>W2</th><th>W3</th><th>MM</th><th>W1</th><th>W2</th><th>W3</th></tr>
<tr><td>River/Canal</td><td>✓</td><td></td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Inland</td><td>✓</td><td>✓</td><td>✓</td><td></td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Open Ocean</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Offshore</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Nearshore</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Great Lakes</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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</td><td>1 hour(s)</td></tr>
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B.1.1 OSRO Classification, Continued

FIGURE B.1-1 provides evidence of contracts with OSROs and equipment lists for contractors without USCG classification. **FIGURE 7.1-1** provides local response contractor's summarized equipment lists and response times.

FIGURE B.1-1 - EVIDENCE OF CONTRACTS AND EQUIPMENT LISTS

Vancouver / Portland OSRO -
Clean Rivers Cooperative, Inc
Portland , OR

- **CRC Equipment List**
- **2022 CRC Membership Certificate**

Clean Rivers Cooperative Equipment List

wrrlID	Resource	Indentification	Specifications	Recovery	LiquidStorage	Boom	HomeBase	State	Staging	OwnerID	Latitude	Longitude
29029	Vessel	FRV Columbia Responder	32' Kvichak (includes boom from WRRL ID 29154)	0	0	2000	Astoria	OR	West Mooring Basin, Port of Astoria	006-27	46.19023	-123.85672
29030	Vessel	FRV Independence	32' Browns (includes boom from WRRL ID 29132)	0	0	1500	Longview	WA	Jack Fowler's Marina	004-24	46.17214	-123.07517
29031	Vessel	FRV Protector	34' Munson (includes boom from WRRL ID 29141)	0	0	1000	St.Helens	OR	Dillards Marina	004-25	45.86611	-122.79634
29032	OSRV	OSRV HW Zarling	34' Kvichak (includes boom from WRRL ID 29143)	3720	24	1000	Portland	OR	Sause Bros.	002-22	45.5499708	-122.7028227
29033	OSRV	OSRV Mark O. Hatfield	34' Kvichak (includes boom from WRRL ID 29142)	3720	24	1000	Cathlamet	WA	Elochoman Marina	003-23	46.20712	-122.38707
29034	OSRV	OSRV MFSA 1	34' Kvichak (includes boom from WRRL ID 29145)	3720	24	1000	Portland	OR	Freds Marina	000-20	45.6176109	-122.803375
29035	OSRV	OSRV Clean Rivers 1	34' Kvichak (includes boom from WRRL ID 29144)	3720	24	1000	Rainier	OR	Foss Dock	001-21	46.2071312	-123.3869362
29038	Vessel	21' Workboat	21' Boston Whaler w/150 hp	0	0	0	Portland	OR	Portland Base Traililer (341-40)	008-28	45.56416	-122.745
29039	Vessel	20' Workboat	20' Alumaweld I w/115 hp	0	0	0	Portland	OR	Portland Base Trailer (331-40)	009-31	45.56416	-122.745
29040	Vessel	Elizabeth Furse	27' Allday	0	0	0	Portland	OR	Portland Base Trailer (329-40)	005-26	45.56416	-122.745
29041	Skiff	14' Skiff	14' Skiff w/15 hp	0	0	0	Portland	OR	Portland Base (Trailer 315-40)	010-58	46.1809892	-123.1732178
29042	Skiff	14' Skiff	14' Skiff w/15 hp	0	0	0	Portland	OR	Trailer 316-40	011-58	45.56416	-122.745
29043	Skiff	14' Skiff	14' Skiff w/15 hp	0	0	0	Portland	OR	Trailer 346-67	012-58	45.56416	-122.745
29044	Skiff	16' Skiff	16' Skiff w/25 hp	0	0	0	Portland	OR	Portland Base Trailer (333-40)	013-58	45.56416	-122.745
29045	Skiff	16' Skiff	16' Skiff w/ 25hp	0	0	0	Clatskanie	OR	Columbia PacificBio-Refinery: Trailer (332-40)	014-58	46.17649	-123.16873
29046	Wildlife	Widlife Rehabilitation Shelter	19' x 35' Western Shelters Gatekeeper 1935	0	0	0	Portland	OR	Portland Base (Wildlife Rehabilitation Trailer 300-38)		45.56416	-122.745
29047	Equipment	1 Ton Service Truck	2008 GMC	0	0	0	Portland	OR	Portland Base	212-65	45.56416	-122.745
29048	Equipment	Boom Trailer	53' Trailer (includes boom from WRRL ID 29169, 29153 and 29126)	0	0	0	Astoria	OR	Tongue Point	303-35	46.1978	-123.76378
29049	Equipment	Boom Trailer	45' Trailer (includes boom from WRRL ID 29127)	0	0	0	Vancouver	WA	Port of Vancouver	304-35	45.64019	-122.71319
29050	OSRV	Shallow Water Recovery Barge	30' Kvichak w/ Lori Skimmer (includes boom from WRRL ID 29146)	2473	100	0	Vancouver	WA	Tesoro Facility	105-29	45.63811	-122.69598
29051	Storage	Shallow Water Barge	30' American Eagle	0	100	0	Portland	OR	Portland Base Trailer#321-40	104-29	45.56416	-122.745
29052	OSRV	Shallow Water Recovery Barge	30' Kvichak w/ Lori Skimmer ((includes boom from WRRL ID 29149)	2473	100	400	Astoria	OR	Tongue Point	103-29	46.199094	-123.763933
29053	OSRV	Shallow Water Recovery Barge	30' Kvichak w/ Lori Skimmer (includes boom from WRRL ID 29148)	2473	100	400	Longview	WA	Weyerhaeuser	102-29	46.13133	-122.99254
29054	OSRV	Shallow Water Recovery Barge	30' Kvichak w/ Lori Skimmer (includes boom from WRRL ID 29150)	2473	100	400	Portland	OR	Portland Base	101-29	45.56416	-122.745
29055	OSRV	Shallow Water Recovery Barge	30' American Eagle w/ Lori Skimmer (includes boom from WRRL ID 29151)	2473	100	400	Clatskanie	OR	Columbia Pacific Bio-Refinery	100-29	46.17649	-123.16873
29056	Storage	Shallow Water Barge	30' American Eagle	0	100	0	Longview	WA	Weyerhaeuser	107-29	46.13133	-122.99254
29057	OSRV	Shallow Water Recovery Barge	30' American Eagle w/ Lori Skimmer (includes boom from WRRL ID 29147)	2473	100	400	Longview	WA	Weyerhaeuser	106-29	46.13133	-122.99254
29058	Storage	Shallow Water Barge	30' American Eagle	0	100	0	Portland	OR	Portland Base Trailer# 320-40	108-29	45.56416	-122.745
29059	Storage	Shallow Water Barge	30' American Eagle	0	100	0	Portland	OR	Portland Base	110-29	45.56416	-122.745
29060	Storage	Shallow Water Barge	30' Kvichak (includes boom from WRRL ID 29136)	0	110	0	Portland	OR	Portland Fire & Rescue Station #6 Moorage	109-29	45.5492	-122.70499
29063	Storage	2500 gal. Towable Bladder	American Marine	0	60	0	Portland	OR	Portland Base	921-29	45.56416	-122.745
29064	Storage	2500 gal. Towable Bladder	American Marine	0	60	0	Portland	OR	Portland Base	922-29	45.56416	-122.745
29065	Storage	2500 gal. Towable Bladder	American Marine	0	60	0	Portland	OR	Portland Base	923-29	45.56416	-122.745
29066	Storage	2500 gal. Towable Bladder	American Marine	0	60	0	Portland	OR	Portland Base	924-29	45.56416	-122.745
29067	Storage	2500 gal. Towable Bladder	American Marine	0	60	0	Portland	OR	Portland Base	925-29	45.56416	-122.745
29068	Storage	1000 gal. Bladder	American Marine	0	23	0	Astoria	OR	Tongue Point	926-29	46.1978	-123.76378
29069	Storage	500 gal. Bladder	American Marine	0	11	0	Astoria	OR	Tongue Point	920-29	46.1978	-123.76378
29071	Equipment	Equipment Trailer	48' Trailer w/ lift gate	0	0	0	Longview	WA	Weyerhaeuser	330-40	46.13133	-122.99254
29072	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1007-29	45.56416	-122.745
29073	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1008-29	45.56416	-122.745
29074	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1009-29	45.56416	-122.745
29075	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1010-29	45.56416	-122.745
29076	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1011-29	45.56416	-122.745
29077	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1012-29	45.56416	-122.745
29078	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Portland Base	1013-29	45.56416	-122.745
29079	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Shoreline Clean-up Trailer (346-40)	1014-29	45.56416	-122.745
29080	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Wildlife Transport Trailer(350-66)	1015-29	45.56416	-122.745
29081	Storage	1000 gal. Portable Storage Tank	FastTanks Storage Tank	0	24	0	Portland	OR	Wildlife Transport Trailer (350-66)	1016-29	45.56416	-122.745
29082	Equipment	Boat Trailer	Trailer (16' Skiff 013-58)	0	0	0	Portland	OR	Portland base (WB 013-58)	333-40	45.56416	-122.745
29083	Equipment	Boat Trailer	Trailer (16' Skiff 014-58)	0	0	0	Portland	OR	Portland Base (WB 014-58)	332-40	45.56416	-122.745
29086	Equipment	Boat Trailer	Trailer (Liz Furse 005-26)	0	0	0	Portland	OR	Portland Base (WB 005-26)	329-40	45.56416	-122.745
29087	Skimmer Portable	API Drum Skimmer	Hydraulic Power Unit and Drum Attachment	2400	0	0	Longview	WA	Trailer (ID 330-40) at Weyerhaeuser in Longview, WA	500-56	46.13133	-122.99254
29088	Skimmer Portable	API Drum Skimmer	Hydraulic Power Unit (56-454) (in Trailer 29187)	2400	0	0	Clatskanie	OR	Columbia Pacific Bio-Refinery	501-56	46.17649	-123.16873
29089	Skimmer Portable	Desmi Terminator 250	Hydraulic Power Unit (250) (57-251)	3017	0	0	Portland	OR	Portland Base	529-56	45.56416	-122.745
29090	Skimmer Portable	Desmi Terminator 250	Hydraulic Power unit (250) (57-252)	3017	0	0	Portland	OR	Portland Base	530-56	45.56416	-122.745
29091	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 520-56)	3" Yanmar Diesel (Unit ID 613-57) 300 GPM	2057	0	0	Portland	OR	Portland Base	709-56	45.56416	-122.745
29092	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 518-56)	3" Yanmar Diesel (Unit ID 611-57) 300 GPM	2057	0	0	Portland	OR	Portland Base	707-56	45.56416	-122.745
29093	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 519-56)	3" Yanmar Diesel (Unit ID 612-57) 300 GPM	2057	0	0	Portland	OR	Portland Base	708-56	45.56416	-122.745
29094	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 513-56)	3" Yanmar Diesel (Unit ID 615-57) 300 GPM	2057	0	0	Longview	WA	Weyerhaeuser	711-56	46.13133	-122.99254
29095	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 510-56)	3" Yanmar Diesel (Unit ID 606-57) 300 GPM	2057	0	0	Astoria	OR	Tongue Point	703-56	46.1978	-123.76378
29096	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 514-56)	3" Yanmar Diesel (Unit ID 616-57) 300 GPM	2057	0	0	Longview	WA	Weyerhaeuser	712-56	46.13133	-122.99254
29097	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 509-56)	3" Yanmar Diesel (Unit ID 609-57) 300 GPM	2057	0	0	Astoria	OR	Tongue Point	702-56	46.1978	-123.76378
29098	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 515-56)	3" Yanmar Diesel (Unit ID 617-57) 300 GPM	2057	0	0	Longview	WA	Weyerhaeuser	713-56	46.13133	-122.99254
29099	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 521-56)	3" Yanmar Diesel (Unit ID 614-57) 300 GPM	2057	0	0	Portland	OR	Portland Base	710-56	45.56416	-122.745
29100	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (502-56)	4457	0	0	Wauna	OR	Tidewater Barge # 2	511-56	46.16214	-123.40924
29101	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (502-56)	4457	0	0	Wauna	OR	Tidewater Barge # 2	512-56	46.16214	-123.40924
29102	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (503-56)	4457	0	0	Vancouver	WA	Tidewater Barge # 4	505-56	45.64914	-122.74507
29103	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (503-56)	4457	0	0	Vancouver	WA	Tidewater Barge # 4	506-56	45.64914	-122.74507
29104	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (504-56)	4457	0	0	Portland	OR	Portland Base	516-56	45.56416	-122.745
29105	Skimmer Portable	Douglas 18000 Skim-Pak	For use with CounterVac 3315 (504-56)	4457	0	0	Portland	OR	Portland Base	522-56	45.56416	-122.745
29106	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 508-56)	3" Yanmar Diesel (Unit ID 607-57) 300 GPM	2057	0	0	Astoria	OR	Tongue Point	701-56	46.1978	-123.76378
29107	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 507-56)	3" Yanmar Diesel (Unit ID 608-57) 300 GPM	2057	0	0	Astoria	OR	Tongue Point	700-56	46.1978	-123.76378
29108	Skimmer Portable	Douglas 18000 Skim-Pak (Unit ID 517-56)	3" Yanmar Diesel (Unit ID 610-57) 300 GPM	2057	0	0	Portland	OR	Portland Base	706-56	45.56416	-122.745
29109	Skimmer Portable	Douglas 4200 Skim-Pak	2" Yanmar Diesel (601-57) Diaphragm	480	0	0	Portland	OR	Portland Base	718-56	46.1978	-123.76378
29110	Skimmer Portable	Douglas 4200 Skim-Pak (524-56)	2" Yanmar Diesel (600-57) Diaphragm	480	0	0	Portland	OR	Portland Base	717-56	46.1978	-123.76378
29111	Skimmer Portable	Douglas 4200 Skim-Pak (527-56)	2" Yanmar Diesel (603-57) Diaphragm	480	0	0	Clatskanie	OR	Columbia Pacific Bio-Refinery	715-56	45.56426	-122.745
29112	Skimmer Portable	Douglas 4200 Skim-Pak (526-56)	2" Yanmar Diesel (602-57) Diaphragm	480	0	0	Portland	OR	Portland Base	714-56	45.56416	-122.745
29113	Skimmer Portable	Douglas 4200 Skim-Pak (528-56)	2" Yanmar Diesel (604-57) Peristaltic	480	0	0	Portland	OR	Portland Base	716-56	45.56416	-122.745
29114	Skimmer Portable	Ro-Clean Rope Mop Skimmer	Hatz Diesel	30	0	0	Portland	OR	Portland Base	543-56	45.56416	-122.745
29115	Skimmer Portable	Slickbar "High Capacity Oil Skimmer"	For use with CounterVac (503-56) (WRRL ID 29194)	4457	0	0	Vancouver	WA	Tidewater Barge # 4	111-29	45.64914	-122.74507
29116	Skimmer Portable	Slickbar "High Capacity Oil Skimmer"	For use with CounterVac (502-56) (WRRL ID 29195)	1714	0	0	Wauna	OR	Tidewater Barge # 2	112-29	46.16214	-123.40924
29117	Skimmer Portable	Slickbar "High Capacity Oil Skimmer"	For use with CounterVac (504-56) (WRRL ID 29193)	4457	0	0	Portland	OR	Portland Base	533-56	45.56416	-122.745
29118	Skimmer Portable	Slickbar "High Capacity Oil Skimmer"	For use with CounterVac (504-56) (WRRL ID 29193)	4457	0	0	Portland	OR	Portland Base	534-56	45.56416	-122.745
29119	Skimmer Portable	Slickbar "High Capacity Oil Skimmer"	For use with CounterVac (504-56) (WRRL ID 29193)	1714	0	0	Portland	OR	Portland Base	535-56	45.56416	-122.745
29120	Skimmer Portable	Slickbar "Manta Ray"	For use with CounterVac (504-56) (WRRL ID 29193)	1028	0	0	Portland	OR	Portland Base	534-56	45.56416	-122.745
29121	Skimmer Portable	36" Coated Drum Skimmer (Unit ID 544-56)	Yanmar Diesel Hydraulic Power Unit (ID 800-58) and 3" Hydraulic Diaphragm Transfer Pump (636-57)	891	0	0	Portland	OR	Portland Base	719-56	45.56416	-122.745
29122	Skimmer Portable	36" Coated Drum Skimmer (Unit ID 545-56)	Yanmar Diesel Hydraulic Power Unit (ID 801-58) and 3" Hydraulic Diaphragm Transfer Pump (ID 637-56)	891	0	0	Portland	OR	Portland Base	720-56	45.56416	-122.745
29123	Skimmer Portable	36" Coated Drum Skimmer (Unit ID 546-56)	Yanmar Diesel Hydraulic Power Unit (ID 802-58) and 3" Hydraulic Diaphragm Transfer Pump (ID 638-57)	891	0	0	Portland	OR	Portland Base	721-56	45.56416	-122.745
29124	Skimmer Portable	36" Coated Drum Skimmer (Unit ID 547-56)	Yanmar Diesel Hydraulic Power Unit (ID 803-58) and 3" Hydraulic Diaphragm Transfer Pump (ID 639-57)	891	0	0	Longview	WA	Trailer (330-40) Weyerhaeuser	722-56	46.13133	-122.99254
29125	Boom	20" Boom	American Marine	0	0	5000	Astoria	OR	Trailer (302-35), Tongue Point	401-00	46.1978	-123.76378
29126	Boom	20" Boom	American Marine	0	0	3900	Astoria	OR	Trailer (303-35) Tongue Point	402-00	46.1978	-123.76378

Clean Rivers Cooperative Equipment List

wrrlID	Resource	Indentification	Specifications	Recovery	LiquidStorage	Boom	HomeBase	State	Staging	OwnerID	Latitude	Longitude
29127	Boom	20" Boom	American Marine	0	0	5000	Vancouver	WA	Trailer (304-35) Port of Vancouver	400-00	45.64019	-122.71319
29129	Boom	20" Boom	American Marine	0	0	4200	Longview	WA	Trailer (309-35) Weyerhaeuser	410-00	46.13133	-122.99254
29130	Boom	20" Boom	American Marine	0	0	5000	Wauna	OR	Trailer (313-35) Georgie Pacific Facility	416-00	46.164833	-123.41479
29131	Boom	20" Boom	American Marine	0	0	5000	Longview	WA	Trailer (307-35) Weyerhaeuser	426-00	46.13133	-122.99254
29132	Boom	14" Boom	American Marine (includes WRRL ID 29030)	0	0	1500	Longview	WA	FRV Independence (Jack Fowler's Marina)	407-00	46.17214	-123.07517
29133	Boom	12" Boom	American Marine	0	0	3000	Portland	OR	Owens Corning(on barge) at Dock	408-00	45.60939	-122.78909
29134	Boom	12" Boom	American Marine	0	0	2000	Portland	OR	Spill Response Trailer (316-40)	417-00	45.56416	-122.745
29135	Boom	20" Boom	American Marine	0	0	5000	Astoria	OR	53' Trailer (312-35)	404-00	46.1978	-123.76378
29136	Boom	12" Boom	American Marine (includes WRRL ID 29060)	0	0	2000	Portland	OR	SWB 109-29 (PFR Fire Station 6)	412-00	45.5492	-122.70499
29137	Boom	20" Boom	American Marine	0	0	400	Scappoose	OR	Scappoose Fire Bureau	411-00	45.757722	-122.876544
29138	Boom	20" Boom	American Marine (includes WRRL ID 29176)	0	0	2500	Skamokawa	WA	28' Trailer (306-35), Vista Park	414-00	46.270249	-123.456564
29139	Boom	20" Boom	American Marine (includes WRRL ID 29180)	0	0	5000	St. Helens	OR	Boise Cascade (Boom Trailer 310-35)	415-00	45.56426	-122.745
29140	Boom	20" Boom	American Marine (includes WRRL ID 29185)	0	0	5000	Port Westward	OR	Boom Trailer (308-35), PGE Beaver	405-00	46.18065	-123.17222
29141	Boom	20" Boom	American Marine (includes WRRL ID 29031)	0	0	1000	St. Helens	OR	FRV Protector (Dillards Marina)	403-00	45.86611	-122.79634
29142	Boom	20" Boom	American Marine (includes WRRL ID 29033)	0	0	1100	Cathlamet	WA	OSRV Mark O. Hatfield (Elochoman Marina)	418-00	46.20712	-122.38707
29143	Boom	20" Boom	American Marine (includes WRRL ID 29032)	0	0	1000	Portland	OR	OSRV HW Zarling (Sause Bros)	419-00	45.61761093	-122.8033752
29144	Boom	20" Boom	American Marine (includes WRRL ID 29035)	0	0	1000	Rainier	OR	OSRV Clean Rivers 1 (Foss Dock)	421-00	46.08901	-122.92838
29145	Boom	20" Boom	American Marine (includes WRRL ID 29034)	0	0	1000	Portland	OR	MFSA-1 Freds Marina	420-00	45.6176109	-122.803375
29146	Boom	12" Boom	American Marine (includes WRRL ID 29050)	0	0	400	Vancouver	WA	SWRB 105-29 (Tesoro Facility)	425-00	45.63811	-122.69598
29147	Boom	12" Boom	American Marine (includes WRRL ID 29057)	0	0	400	Longview	WA	SWRB 106-29 (Weyerhaeuser)	413-00	46.13133	-122.99254
29148	Boom	12" Boom	American Marine (includes WRRL ID 29053)	0	0	400	Longview	WA	SWRB 102-29 (Weyerhaeuser)	406-00	46.13133	-122.99254
29149	Boom	12" Boom	American Marine (includes WRRL ID 29052)	0	0	400	Longview	WA	SWRB 103-29 (Weyerhaeuser)	424-00	46.1978	-123.76378
29150	Boom	12" Boom	American Marine (includes WRRL ID 29054)	0	0	400	Astoria	OR	SWRB 101-29 (Tongue Point)	423-00	46.1978	-123.76378
29151	Boom	12" Boom	American Marine (includes WRRL ID 29055)	0	0	400	Clatskanie	OR	Columbia Pacific Bio-Refinery (SWRB 100-29)	422-00	46.1978	-123.76378
29152	Boom	14" Boom	American Marine (includes WRRL ID 29176)	0	0	500	Skamokawa	WA	Skamokawa, WA (Boom Trailer 306-35)	427-00	46.270249	-123.456564
29153	Boom	28" Fast Water Boom	American Marine (includes WRRL ID 29169)	0	0	700	Astoria	OR	Boom Trailer 303-35 (Tongue Point)	429-00	46.1978	-123.76378
29154	Boom	12" Boom	American Marine (include WRRL ID 29029)	0	0	2000	Astoria	OR	FRV Columbia Responder (West Mooring Basin, Port of Astoria	409-00	46.19023	-123.85672
29155	Skimmer Portable	12" Drum Skimmer (Flotation Unit ID 548-56)	Yanmar Diesel Hydraulic Power Unit (804-58) and 3" Hydraulic Diaphragm Transfer Pump (ID 640-57)	891	0	0	Portland	OR	Portland Base	723-56	45.56416	-122.745
29156	Skimmer Portable	12" Drum Skimmer (Flotation Unit ID 549-56)	Yanmar Diesel Hydraulic Power Unit (ID 805-58) and 3" Hydraulic Diaphragm Transfer Pump (ID 641-57)	891	0	0	Portland	OR	Portland Base	724-56	45.56416	-122.745
29157	Vessel	20' Workboat	20' Alumaweld II w/90 hp	0	0	0	Portland	OR	Porland Base Trailer (342-40)	015-33	45.56416	-122.745
29159	Equipment	4x4 Pick-up	2003 Ford F-350	0	0	0	Portland	OR	Portland Base	206-54	45.56416	-122.745
29160	Equipment	4x4 SUV	2014 Ford Explorer	0	0	0	Portland	OR	Portland Base	212-69	45.56416	-122.745
29161	Equipment	Boom Trailer	53' Trailer	0	0	0	Portland	OR	Portland Base	338-35	45.56416	-122.745
29163	Wildlife	Wildlife Transport Trailer	32' Climate Control Cargo Trailer	0	0	0	Portland	OR	Portland Base	350-66	45.56416	-122.745
29164	Equipment	Flatbed Trailer	48' Flatbed Trailer	0	0	0	Portland	OR	Portland Base	339-40	45.56416	-122.745
29165	Equipment	Flatbed Crane Truck	1980 GMC	0	0	0	Portland	OR	Portland Base	203-48	45.56416	-122.745
29167	Equipment	Tractor	2001 Freightliner	0	0	0	Portland	OR	Portland Base	209-61	45.56416	-122.745
29168	Equipment	Tractor	1993 International	0	0	0	Astoria	OR	Tongue Point	202-52	46.1978	-123.76378
29169	Boom	30" Boom	American Marine (includes WRRL ID ?)	0	0	400	Astoria	OR	Trailer 303-35 (Tongue Point)	428-00	46.1978	-123.76378
29170	Wildlife	Wildlife Rehabilitation Trailer	48' Specialty Trailer - Wildlife Rehabilitation (includes WRRL ID ?)	0	0	0	Portland	OR	Portland Base	300-38	45.56416	-122.745
29171	Boom	12" Boom	American Marine (includes WRRL ID 29176)	0	0	1000	Skamokawa	WA	Skamokawa, WA (Trailer 306-35)	430-00	46.270249	-123.456564
29172	Equipment	Command & Communication Trailer	53' Specialty Trailer - Command & Communications	0	0	0	Portland	OR	Portland Base	301-39	45.56416	-122.745
29174	Equipment	Boom Trailer	48' Trailer	0	0	0	Astoria	OR	Tongue Point	302-35	46.1978	-123.76378
29176	Equipment	Boom Trailer	28' Trailer (miscellaneous boom)	0	0	0	Skamokawa	WA	Vista Park	306-35	46.270249	-123.456564
29177	Equipment	Boom Trailer	48' Trailer	0	0	5000	Longview	WA	Weyerhaeuser	307-35	46.131291	-122.9927158
29178	Equipment	Boom Trailer	42' Trailer	0	0	0	Wauna	OR	Georgia Pacific	313-35	46.16484	-123.41479
29179	Equipment	Boom Trailer	48' Trailer	0	0	0	Longview	WA	Weyerhaeuser	309-35	46.13133	-122.99254
29180	Equipment	Boom Trailer	48' Trailer	0	0	0	St. Helens	OR	Boise Cascade	310-35	45.56426	-122.745
29181	Boom	20" Boom	American Marine	0	0	4000	Portland	OR	Trailer (338-35) Portland Base	431-00	45.56416	-122.745
29182	Shoreline	Shoreline Clean-up Trailer	(includes WRRL ID 29042)	0	0	0	Portland	OR	Portland Base	346-67	45.56416	-122.745
29184	Equipment	Boom Trailer	53' Trailer	0	0	0	Astoria	OR	Tongue Point	312-35	46.1978	-123.76378
29185	Equipment	Boom Trailer	48' Trailer	0	0	0	Port Westward	OR	PGE (Beaver Facility)	308-35	46.18065	-123.17222
29187	Equipment	Equipment Trailer	30' Trailer (contains misc. spill response equipment)	0	0	0	Clatskanie	OR	Columbia Pacific Bio-Refinery	315-40	46.17649	-123.16873
29188	Equipment	Spill Response Trailer	34' Trailer	0	0	0	Portland	OR	Portland Base	316-40	45.56416	-122.745
29189	Equipment	Generator Trailer	25kw Generator	0	0	0	Portland	OR	Portland Base	317-40	45.56416	-122.745
29190	Equipment	Generator Trailer	35kw Generator	0	0	0	Portland	OR	Portland Base	318-40	45.56416	-122.745
29191	Skiff	14' Skiff	14' Skiff with 15 hp Outboard	0	0	0	Portland	OR	Portland Base (Trailer 316-40)	011-58	45.56416	-122.745
29192	Equipment	Boom Trailer	53' Trailer	0	0	5000	Astoria	OR	Astoria, Tongue Point (3900' 8x12) (700' Fast water 18x10) (400' 18x12)	303-35 303-35	46.1978	-123.76378
29193	Equipment	CounterVac 3315	21' pull on 3" hose	0	0	0	Portland	OR	Portland Base	504-56	45.56416	-122.745
29194	Equipment	CounterVac 3315	21' pull on 3" hose	0	12	0	Vancouver	WA	Tidewater Barge # 4	503-56	45.64914	-122.74507
29195	Equipment	CounterVac 3315	21' pull on 3" hose	0	12	0	Wauna	OR	Tidewater Barge # 2	502-56	46.16214	-123.40924
29196	Equipment	Float-O-Pump	100 gpm	0	0	0	Portland	OR	Portland Base (Trailer 346-40)	618-57	45.56416	-123.456564
29197	Equipment	Float-O-Pump	100 gpm	0	0	0	Portland	OR	Portland Base (Trailer 346-40)	619-57	45.56416	-122.745
29198	Equipment	Float-O-Pump	100 gpm	0	0	0	Portland	OR	Portland Base (Trailer 346-40)	622-57	45.56416	-122.745
29199	Equipment	Desmi DOP 160	Hydraulic Power Unit (160)	0	0	0	Portland	OR	Portland Base		45.56416	-122.745
29200	Equipment	Desmi DOP 160	Hydraulic Power Unit (160)	0	0	0	Portland	OR	Portland Base		45.56416	-122.745
30051	Boom	20" Boom	American Marine	0	0	2000	Boardman	OR	20' Connex box on chassis, Tidewater Facility in Boardman, Oregon.	432-00	45.824842	-119.709738
30052	Equipment	Connex Box	20' container on chassis	0	0	0	Boardman	OR	Tidewater Facility in Boardman, Oregon	346-35	45.824842	-119.709738
30499	Vessel	18' Skiff	18' Skiff w/ 25hp	0	0	0	Portland	OR	Portland Base (Trailer 348-40)	016-58	45.56416	-122.745
30500	Vessel	18' Skiff	18' Skiff w/ 25hp	0	0	0	Portland	OR	Portland Base (Trailer 349-40)	017-58	45.56416	-122.745
30948	Equipment	Tractor	2007 Freightliner	0	0	0	Portland	OR	Portland	211-68	45.56416	-122.745
30950	Equipment	Work Truck/Pickup	1 Ton Ford 350 Super Duty 2008	0	0	0	Portland	OR	Portland Base	210-62	45.56416	-122.745
31080	Vessel	20' Workboat	20' Alumaweld III w/90hp	0	0	0	Portland	OR	Portland Base Trailer# 352-40	018-34	45.56416	-122.745
31552	Shoreline	100 Man Shoreline Clean-up Trailer	48' Shoreline Clean-up Trailer	0	0	0	Portland	OR	Portland CRC Facility	354-70	45.56416	-122.745

Certificate of Membership

CLEAN RIVERS
COOPERATIVE

Issued To:

NUSTAR TERMINALS (Vancouver)

This is to certify that the above named company is a member in good standing of Clean Rivers Cooperative, Inc. and is therefore entitled to all the rights and privileges thereof.

January 10, 2022
Date

Curtis Cannizzaro

Curtis Cannizzaro, General Manager
Clean Rivers Cooperative, Inc.
Portland, Oregon

APPENDIX C
SPCC PLANS

Last Revised: August 23, 2022

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Figure C-1 - Professional Engineer Certification

Figure C-2 - Management Approval and Review

Figure C-3 - Record of Reviews

Figure C-4 - SPCC Plan

Figure C-5 - Tank Tables

Figure C-6 - Addendum

Figure C-7 - Drainage Diagram

Figure C-8 - Evacuation Diagram

Figure C-9 - Piping Diagram

Figure C-10 - Containment Calculation

Figure C-11 - Discharge Prevention Meeting Log

Figure C-12 - Inspection Procedures

Figure C-13 - Annual Inspection Record

Figure C-14 - Secondary Containment Drainage Log

Figure C-15 - Reportable Spill History

Figure C-16 - Containment and Drainage Planning

FIGURE C-1 - PROFESSIONAL ENGINEER CERTIFICATION

40 CFR, Part 112.3(d) Professional Engineer Certification	
Being familiar with the provisions of 40 CFR, Part 112, I attest to the following: • I am familiar with the requirements of this part • I or my agent has visited and examined the Facility • The Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part • Procedures for required inspections and testing have been established • The Plan is adequate for the Facility	
Printed Name of Registered Professional Engineer:	Ian Maguire
Signature of Registered Professional Engineer:	
Date:	8/23/2022
Registration No.:	80002
Seal:	

FIGURE C-2 - MANAGEMENT APPROVAL AND REVIEW

I hereby approve the contents of the Facility's Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) and have the authority to commit the necessary resources to implement the SPCC Plan, as set forth in this document, in accordance with the federal requirements of 40 CFR Part 112.

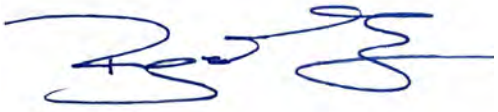
Name:	Ryan Groesbeck	**Signature:**	
Title:	Terminal Manager	**Date:**	3/9/2022

FIGURE C-3 - RECORD OF REVIEWS

Date of Review[1]		Will Plan Need Amendment?[2]	Reviewer's Signature[3]	Reason for Amendment[4]	Date of Amendment (or N/A)
Full	Partial	Yes / No			
7/23/2019		Yes	Ian Maguire, PE	5-Year PE Review/Update tank contents and containment volume calculations.	9/3/2019
9/24/2019		Yes	Jeff Hibner	Pg C-6 Sec 7 Changed ethanol to "gasoline" Pg C-7 Sec 4 Changed last sentence - absorbent materials is located "near" the Truck Loading Rack. Pg C-10 (1) Sec 3 Added "The facility is also monitored via security cameras located throughout the facility." Pg C-11 (1) Sec 3 Added no rail "loading" rack Pg C-19 Figure C-4 40CFR 112.7(d) reference the incorrect capacity of the skimmer tank. It should be 3,700 gallons.	9/25/2019
09/30/2020		No	Jeff Hibner	No Changes needed at this time.	
	09/28/2021	Yes	Ryan Groesbeck and Jeff Hibner	No amendments required	
07/28/2022	07/28/2022	Yes	Ian Maguire, PE	Update tank contents and containment calculations. Updated plan to include pump area lining, VCU saturator tank, and biodiesel filters.	08/23/2022

[1] A full review of the plan must be performed at least once every five years.

[2] Any addition of new sources of significant materials or a change in design, construction, operation or maintenance, which will have a significant effect on the potential to contaminate storm water runoff from this facility will require an amendment to this plan, including a description of controls to be used to minimize exposure of such materials to storm water runoff. If amendment of the plan is required as the for these reasons, or as the result of a Site Compliance Evaluation, amendment of the plan must be completed.

[3] Reviewer's printed name indicates that he/she has completed review and evaluation of this plan on the date indicated and will or will not amend the plan as a result, as indicated.

[4] Briefly describe reasons for plan amendment, as required in footnote 2. For administrative changes not subject to the criteria identified in footnote 2, such as updates to names or phone numbers, regulatory changes, or changes in company policies, these will be entered in the Record of Changes Form (**FIGURE C-1**).

FIGURE C-4 - SPCC PLAN

FACILITY INFORMATION			
Name of Facility:	Portland Terminal	**Type of Facility:**	Onshore/Non Production
Location of Facility:	9420 N.W. St. Helens Road Portland, OR 97231	**Name & Address of Owner or Operator:**	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257
Latitude/ Longitude:	45° 35' 19.7" N 122° 46' 23.2" W	**Designated Personnel Accountable for Oil Spill Prevention at the Facility:**	Ryan Groesbeck
Personnel Accountable for Training at the Facility:	HSE Representative		

FIGURE C-4 - SPCC PLAN, CONTINUED

FACILITY INFORMATION
General Facility Description
This site is a petroleum bulk tank farm and marine terminal consisting of aboveground storage tanks ranging in size from 120 to 110,000 barrels. The facility is used for bulk storage and distribution of petroleum hydrocarbons, biodiesel fuels, and ethanol. The facility receives and ships product by pipeline, tank truck, and waterborne vessels. Products transferred through this facility are non-persistent oils consisting of gasoline, fuel additives, distillates, ethanol, biodiesel and renewable diesel.

40 CFR, 112.7 (a) General Requirements

40 CFR, 112.7
(a) GENERAL REQUIREMENTS
(1) Include a discussion of your facilities conformance with the requirements listed in this part
• The specific requirements are detailed in bulleted responses below.
(2) Comply with all applicable requirement listed in this part. Your Plan may deviate from some requirements if you provide additional protection or explanation
• All requirements are addressed below. Where deviations may occur, an equivalent environmental protection is described in detail.
(3) Describe in your Plan the physical layout of the facility and include a facility diagram. You must also address in your plan:
• The facility is an Onshore/Non-Production facility, refer to FIGURE C-7 for the facility diagram.
• The facility has 2 marine docks, 1 rail area, 1 truck rack, and truck offload areas.
• USCG - 1st valve in containment for 1) P2 dock is at NE end of the facility adjacent to Yard 1. 2) P3 dock is at SE end of the facility inside Yard 4 containment.
i.The type of oil in each container and its storage capacity
• Refer to FIGURE C-5 for the Tank Table.
ii.Discharge prevention measures
• This plan includes prevention measures with focus on proper equipment, equipment maintenance, alarms, containments, response equipment/resource, personnel training, and security measures that are designed to prevent discharge from the facility.
iii.Discharge or drainage controls
• Refer to APPENDIX C 40 CFR 112.8 (b).
iv.Countermeasures for discharge
• This facility has an active Facility Response Plan (FRP) containing countermeasures for discharge discovery, response and cleanup responses. Refer to SECTION 2 of the Facility Response Plan (FRP).
v.Methods of disposal
• Refer to SECTION 7.4 Waste Management of the FRP. Manage waste according to all Federal/State/Local regulations.
vi.Contact list and phone numbers
• Refer to FIGURE 3.1-5 and FIGURE 3.1-6 of the FRP.
(4) Unless you have submitted a response plan, provide information and procedures to report a discharge
• FRP has been submitted to the regional administrator.
(5) Unless you have submitted a response plan, describe procedures you will use when a discharge occurs
• FRP has been submitted to the regional administrator.

40 CFR, 112.7 (b) Prediction Of The Direction, Rate Of Flow, And Total Quantity Of Oil Which Could Be Discharged From The Facility As A Result Of Each Type Of Major Equipment Failure

40 CFR, 112.7
(b) PREDICTION OF THE DIRECTION, RATE OF FLOW, AND TOTAL QUANTITY OF OIL WHICH COULD BE DISCHARGED FROM THE FACILITY AS A RESULT OF EACH TYPE OF MAJOR EQUIPMENT FAILURE
• For tanks, Refer to Tank Table, FIGURE C-5.
• Tank Overfill: If tank 10026 were to be overfilled, which is unlikely due to overfill alarms, it would likely be at a rate of 5,600 gallons per minute (gpm). Material would flow into Berm #5; unrestricted flow would be northeast. Flow time until isolation is estimated at 3 minutes; total volume estimated at 16,800 gallons.
• Rail Offloading Spill: If a spill were to occur during railcar unloading it would likely be at a rate of 44 gallons per minute (gpm). Material would flow into drip pans beneath the railcars. Flow time until isolation is estimated at 1 minute; total volume estimated at 44 gallons.
• Truck Loading Spill: If a spill were to occur during truck loading it would likely be at a rate of 500 gallons per minute (gpm). Flow time until isolation is estimated at 1 minute; total volume estimated at 500 gallons. Material would flow into the truck rack containment system; the truck rack containment system includes an underground 15,000-gallon spill containment tank to capture a potential release before the system drains to the P-2 oil/water separator. Discharge from the 15,000-gallon spill containment tank to the P-2 oil/water separator is controlled by a discharge valve, which is kept in the closed position when not in use.
• Drum Spill: If a drum spill were to occur within the hazardous waste storage area, up to 55 gallons could be released from a leak in the drum. Material would flow into secondary containment pallets beneath the drums.
• Truck Ethanol and Biodiesel Offloading Spill: Unloading of ethanol and biodiesel occurs at the west corner of Tank Yard 1 near tank 3510 as shown on FIGURE C-7a. If a spill were to occur in the ethanol and biodiesel offloading area, it would likely be at a rate of 100 to 200 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 100 to 200 gallons. Material would flow into the asphalt concrete bermed containment area surrounding the offload area equipped with a low-point sump. The sump is drained by pump to Tank Yard 1; catch basins in Tank Yard 1 drain to the P-2 oil/water separator. Unrestricted flow in the driveway area (outside of the berm area) would be northeast and enter catch basin CB-2 which drains a sump at the Shop Building adjacent to Building 8 before being pumped to Tank Yard 1; catch basins in Tank Yard 1 drain to the P-2 oil/water separator.
• Gasoline and Diesel Offloading Spill: Unloading of gasoline and diesel occurs at the east corner of the Operations Office (Upper Terminal Drainage Area) as shown on FIGURE C-7a. If a spill were to occur in this offloading area, it would likely be at a rate of 100 to 200 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 100 to 200 gallons. Gasoline or diesel spilled from the connection to the offload pumps would flow into a concrete bermed containment area, a spill outside of the containment area would flow to the southwest and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Gasoline Offloading Spill: Unloading of gasoline occurs infrequently at the south corner of Tank Yard 2 (P-2 Drainage Area) as shown on FIGURE C-7a, near the hazardous waste storage area. If a spill were to occur in this offloading area, gasoline would flow unrestricted to the northeast. Catch basins in the P-2 Drainage Area drain to the P-2 oil/water separator.
• Vapor Combustion Unit Saturation Tank Spill: The saturation tank is a double-walled steel located east of the Operations Office (Upper Terminal Drainage Area) as shown on Figure C-7a. If a spill were to occur from the VCU Saturation Tank, material would flow unrestricted over the asphalt-paved surrounding area to the southeast and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Biodiesel Filter Spill: Biodiesel is filtered prior to loading at the Truck Loading Rack, the filters are located east of the Operations Office (Upper Terminal Drainage Area) as shown on Figure C-7a. If a spill were to occur at the biodiesel filters, it would likely be at a rate of 500 gpm. Flow time until isolation is estimated at 1 minute; total volume estimated at 500 gallons. Material would flow into the concrete bermed containment area around the filters. If the volume is in excess of the containment capacity of the concrete bermed area, biodiesel would spill onto the asphalt-paved surrounding area and flow to the northwest and enter catch basins. Catch basins in the Upper Terminal Drainage Area drain to the P-2 oil/water separator.
• Dock Pumps/Kinder Morgan Piping Manifold Area Spill: The manifold area is located between Tank Yards 1 and 2 is lined with a sealed HDPE liner and surrounded with a shallow concrete curb. If a spill occurs in either piping manifold area, it would be up to 2,800 gpm . Flow time until isolation is estimated at 2 to 3 minutes; the total volume estimated would be up to 8,400 gallons. Material would flow into the lined areas; each manifold area contains a low point sump. The sump for the Kinder Morgan Piping Manifold Area is located along the southeast wall of Tank Yard 1, the sump is drained to Tank Yard 1 by pump, which is manually activated. Catch basins in Tank Yard 1 drain to the P-2 oil/water separator. is controlled by a discharge valve, which is kept in the closed position when not in use. If the volume spilled exceeds the capacity of the lined area and sump, unrestricted flow in the driveway area between Tank Yards 1 and 2, flow would be west and enter catch basin PS29A adjacent to the manifold area, catch basin PS29A drains to the P-2 oil/water separator.
• Tank Yard 2 Pump Manifold Spill: The pump manifold area is located between Tank Yards 1 and 2, at the northwest corner of Tank Yard 2. The area is lined with a sealed HDPE liner and surrounded with a shallow concrete curb. If a spill occurs in the pump manifold area, it would likely be at a rate up to 2,800 gpm. Flow time until isolation is estimated at 2 to 3 minutes; the total volume estimated would be up to 8,400 gallons. Material would flow into the lined manifold area, which contains a low point sump. The sump is drained to Tank Yard 2 by pump, which is manually activated. Catch basins in Tank Yard 2 drain to the P-2 oil/water separator; drainage from Tank Yard 2 to the P-2 oil/water separator is controlled by a discharge valve, which is kept in the closed position when not in use. If the volume spilled exceeds the capacity of the lined area and sump, unrestricted flow in the driveway area between Tank Yards 1 and 2, flow would be west and enter catch basin PS29A adjacent to the manifold area, catch basin PS29A drains to the P-2 oil/water separator.

40 CFR, 112.7 (c) Provide Appropriate Containment

40 CFR, 112.7
(c) PROVIDE APPROPRIATE CONTAINMENT
• Refer to Tank Table, FIGURE C-5.
• Tank Overfill: Spilled oil (16,800 gallons estimated) from an overflow of tank 10026 would be contained within the berm #5, which provides 5,444,729 gallons of secondary containment.
• Rail Offloading Spill: Spilled oil (44 gallons estimated) from rail offloading operations would initially flow into the drip pans (59 gallons containment) beneath the railcars.
• Truck Loading Spill: Spilled oil (500 gallons estimated) from truck loading operations would flow into the truck rack containment system, which provides 20,008 gallons of containment. In addition, the catch basins in the containment system are routed to an underground 15,000-gallon spill containment tank before draining to the P-2 oil/water separator. The 15,000-gallon containment tank at the Loading Rack is equipped with a high-level alarm which will notify Company Operations personnel when the tank reaches a specific level. Company Operations personnel complete a visual inspection of the containment tank before the contents are transferred to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the Truck Loading Rack.
• Drum Spill: Drums are stored on secondary containment pallets within the Hazardous Waste Storage Area. Each pallet provides sufficient containment (66 gallons per pallet) for the drums stored on the pallets. A spill kit containing PPE and oil absorbent materials is located at the Hazardous Waste Storage Area.
• Truck Ethanol and Biodiesel Offloading Spill: The ethanol and biodiesel offloading area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. The ethanol or biodiesel spilled during offloading operations would flow into the ethanol and biodiesel offloading containment area, which provides 4,497 gallons of containment. The containment area sump and catch basins downgradient of the ethanol and biodiesel offloading area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the offloading area. In the event a spill of ethanol enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.
• Gasoline and Diesel Offloading Spill (Upper Terminal by VRU): The gasoline and diesel offloading area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. The gasoline or diesel spilled during offloading operations would flow into the gasoline and diesel offloading containment area, which provides 212 gallons of containment. Gasoline or diesel spilled outside the containment (from the connection with the tanker truck) would be expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the gasoline and diesel offloading area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area.
• Gasoline Offloading Spill (North Facility adjacent to Yard 2): The gasoline offloading area are subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline from gasoline offloading operations would spread laterally on the asphalt-paved area surrounding the offloading area into a catch basin located approximately 215 feet east of the gasoline offloading area. The catch basins downgradient of the gasoline offloading area are routed to the P-2 oil/water separator. Additionally, a Spill Kit containing PPE and oil absorbent materials is located near the offloading area. A drip pan is used during transfer at the connection point.
• Vapor Combustion Unit Saturation Tank Spill: The saturation tank was constructed in 2021 and is a double-walled steel tank that provides 110% containment capacity. In the event that a spill from the Saturation Tank occurs, spilled material will drain laterally on the relatively flat asphalt-paved area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Saturation Tank are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the Biodiesel Filter Area. In the event a spill of biodiesel enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.
• Biodiesel Filter Spill: The biodiesel filter area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Biodiesel pilled during operations would flow into the containment area surrounding the biodiesel filters, which provides approximately 445 gallons of containment capacity. Spilled volume in excess of the containment capacity will overflow the concrete containment curb and drain laterally on the relatively flat asphalt-paved area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the biodiesel filters are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a capacity of 7,000 gallons. Additionally, a Spill Kit containing personal protective equipment (PPE) and oil absorbent materials is located near the Biodiesel Filter Area. In the event a spill of biodiesel enters a catch basin, the outlet from the P-2 oil/water separator will be closed until the contents are removed.
• Dock Pumps/Kinder Morgan Pipeline Manifold Area: A spill in the Kinder Morgan Pipeline Manifold Area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline, diesel, or biodiesel would spread onto the HDPE lined area and drain to the area sump, the lined area is surrounded by a concrete curb, the sump and HDPE lined containment area provides approximately 3,100 gallons of containment. If a spill volume exceeds the containment capacity or is not contained, flow would be expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Kinder Morgan Piping Manifold Area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area. In the event that ethanol is released, the ethanol should be retained within the lined sump area or inside Yard 1. Ethanol will not be removed by the oil/water separator; therefore, the discharge from the P-2 oil/water separator to Outfall 001 should be closed until the ethanol is removed.
• Tank Yard 2 Pump Manifold Spill: A spill in the Tank Yard 2 Area is subject to the requirements of 40CFR 112.7 (c) for general secondary containment via active measures. Spilled gasoline, diesel, or biodiesel would spread onto the HDPE lined area and drain to the area sump, the lined area is surrounded by a concrete curb, the sump and HDPE lined containment area provides approximately 370 gallons of containment. If a spill volume exceeds the containment capacity or is not contained, flow would be

expected to spread laterally on the relatively flat asphalt-paved area surrounding this offloading area and enter the storm drainage system via adjacent catch basins. The catch basins downgradient of the Tank Yard 2 Pump Manifold Area are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a skimmer tank (Tank 01) with a 7,000-gallon capacity. A Spill Kit containing a drain cover, PPE, and oil absorbent materials is located near the offloading area. In the event that ethanol is released, the ethanol should be retained within the lined sump area or inside Yard 1. Ethanol will not be removed by the oil/water separator; therefore, the discharge from the P-2 oil/water separator to Outfall 001 should be closed until the ethanol is removed.

40 CFR, 112.7 (d) Contingency Planning

40 CFR, 112.7
(d) PRACTICABILITY OF SECONDARY CONTAINMENT
(1) An oil spill contingency plan following the provisions of part 109 of this chapter
• A response plan in accordance with 40 CFR 112.20 has been submitted for this facility.
• Piping and Associated Appurtenances: A majority of the aboveground and buried piping at the facility falls within secondary containment structures, such as tank dikes, curbed pads, and other containment structures. For the limited amount of aboveground piping that exists outside of containment, secondary containment is impracticable for the piping runs that span areas of operational equipment, vehicle rights-of-way, and other ancillary features (e.g., foundation supports and fencing).
• Offloading of refined products is performed on a scheduled basis. The truck drivers must be trained in operation of unloading equipment prior to conducting unloading operations. Prior to initiating the offload, Company operations personnel verify that there is sufficient volume in the respective tankage to receive the entire load and notifies the driver to start the offload pump. Company Operations personnel monitor the level in the tank to prevent overfilling. There are Spill Kits at each offloading station containing sorbent pads and related equipment. In the event of a spill, the appropriate countermeasures (e.g., deployment of sorbents, portable barriers, and use of portable pumps and/or vacuum trucks) would be used to contain petroleum product prior to reaching navigable waters or adjoining shorelines. Catch basins in the vicinity of offloading stations are routed to the P-2 oil/water separator. The P-2 oil/water separator is connected to a 3,700-gallon skimmer tank, sufficient to contain the expected release quantities of gasoline and diesel.

40 CFR, 112.7 (e) Inspections, Tests, And Records

40 CFR, 112.7
(e) INSPECTIONS, TESTS, AND RECORDS
• Monthly inspections are performed which include checklist items covering storage tanks, pumps, pipelines, valves, fittings, fence perimeter and general security.
• Product handling equipment is inspected for signs of leakage or potential leakage. Spill containment impoundments are inspected to verify for the presence of oil.
• Terminal personnel perform regular inspections of facility equipment, operations and spill containment areas. Inspections are performed in accordance with written procedures detailed on each inspection sheet.
• Bulk Storage Tanks internal and external inspection frequencies shall be in accordance with the recommendations of the latest edition of API 653. Small Storage Tanks internal and external inspection frequencies shall be in accordance with the recommendation of the latest edition of STISP001.
• An API 653 inspection includes performing non-destructive testing of the tank steel to verify corrosion conditions. The API 653 inspection reports are maintained at the main office of the terminal manager.
• When measurements or tank conditions are found to be out of API 653 specifications, the necessary repair work will be completed prior to returning the tank to operational service.
• Inspection and testing records are made part of this plan and are kept at the main office of the terminal manager. All inspection records associated with this SPCC plan will be maintained for a period of three years.
• The facility manager or his designee will sign the inspections required by this SPCC Plan. Examples of these inspections can be found in this plan.
• Liquid level gauging devices are regularly tested to ensure proper operation. Maintenance records are kept at the facility.
• Audio/visual/olfactory (AVO) procedures are used for leak detection. The criteria for suspending operation while leak detection or any other spill control systems are inoperative is specified in the NuStar Pipeline Operation and Maintenance Manual under abnormal operation and deviation from normal operating procedures. The operation system with product movement is suspended unless a safe alternative spill control system is identified and in place or until the system has been repaired.
• When a leak alarm is triggered, operators are to suspend operations to isolate the affected location. Operations are to remain stopped until the leak location is repaired or inspected and found to actually be in satisfactory condition.
• Integrity testing will follow the guidelines listed above and examples of these records documenting the testing is stored at the Main Office. Annual survey of pipelines is conducted according to 49CFR 195.573(a)(1) which interval not exceeding 15-months. Above ground storage tanks are to be tested in accordance with API RP 651 "Cathodic Protection of Above Ground Storage Tank Bottoms" per paragraph 49CFR 195.573(d).
• The facility has Operation procedures to guide the inspection during product transfer. Records of the inspections are maintained at the terminal.
• Records of design, repair and construction of tanks are kept for life.
• Training records are available at the Terminal.

40 CFR, 112.7 (f) Personnel Training And Discharge Prevention Procedures

40 CFR, 112.7
(f) PERSONNEL TRAINING AND DISCHARGE PREVENTION PROCEDURES
(1) PERSONNEL TRAINING
• Annually the Company will provide update training in the form of on-site meetings with all employees. Employee training will include review and instruction in each of the following categories:
• The Company has developed an employee-training program that addresses proper operation and maintenance of equipment to prevent the release of oil into navigable waters.
• The Company provides initial awareness training to all employees prior to the employee commencing operational duties. The employees are informed of the SPCC Plan, the purpose of the plan, and proper pollution prevention practices.
• The overall purpose of this training program is ensuring that employees are kept informed of current operational procedures, and applicable spill prevention methods.
• The Company provides review of the Terminal's SPCC Plan, review of new revised regulations / laws / instructions, training on safe handling of hazardous materials, review of product storage and transfer operations, and training to recognize and identify pollution prevention opportunities.
• Shore Terminals has an established alcohol and substance abuse program which includes awareness, training, screening and treatment. Employees are provided with this information at the initial employment orientation. Shore offers an Employee Assistance Program, which provides assistance and referrals to rehabilitation for employees who see assistance for alcohol or drug abuse. Applicants are subject to drug and alcohol tests during the pre-employment process, and employees undergo unannounced random testing, as well as reasonable suspicion, post-accident/post incident, and customer/client required.
(2) DESIGNATED PERSON
• Designated Personnel accountable for oil spill prevention at the facility is identified in Figure C-4, Facility Information.
(3) SPILL PREVENTION BRIEFINGS
• In addition to the regular employee training, the Company will schedule annual briefings to assure that employees have current knowledge of spill prevention techniques and associated equipment.
• The record of these briefings will be documented using the form included with this SPCC Plan.
• Employees are instructed in applicable pollution control laws, rules, and regulations.

40 CFR, 112.7 (g) Security

40 CFR, 112.7
(g) SECURITY
(1) FENCES AND GATES
• This facility is fully fenced.
• Terminal personnel monitor all persons entering the site 24 hours a day.
• All security gates are securely closed to prevent unauthorized entry. A security guard is stationed at the front gate from 06:30 to 15:30 (Monday- Friday). When security guard is not present, terminal operations monitor the gate via the intercom system located at the gate, which is connected to operation's phone/radio. The facility is also monitored via security cameras located throughout the facility.
(2) CONTAINER VALVES / DRAINS
• Piping and valves associated with storage tanks are configured such that product may only be discharged through the DOT pipeline system, tank truck loading rack or marine dock, except when emptying tank with portable pumping equipment.
• Post shut-down residual drainout from pipes and valves are minimized through the use of OSHA Lock Out Tag Out procedures. All pipes and valves are identified in isolation lists for each tank and line in this facility.
• The dispensing of petroleum products at the Facility are controlled by Company personnel and pre-authorized persons. Only drivers with pre-authorized access with certified trailer/tanker are authorized to load products into their trailer/tanker.
• All tank water draw-off valves are secured in the closed position and the entire facility is behind locked gates to prevent unauthorized access.
• These valves will remain closed except when discharging tank bottom water.
(3) STARTER PUMPS
• The Company secures all gates and does not allow unauthorized access to the loading rack or marine dock.
• Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. Authorized persons must key in personal ID and company ID to gain access to the site and also to start pumping.
• Pump starter controls are not typically in a non-operating or non-standby status. If this situation occurs, the controls will be locked.
(4) LOADING / UNLOADING CONNECTIONS
• Only Company employees or authorized persons operate starter controls for loading or unloading of petroleum products. The Company secures all gates and does not allow unauthorized access to the Facility at all time.
• When Facility piping, including loading/unloading connections, is not in service, all openings and connections are securely capped and/or blank flanged to prevent accidental discharge of petroleum products.
• Terminal personnel or other authorized persons inspect and assist in all loading of product at the facility.
(5) FACILITY LIGHTING
• Lighting is provided throughout the tank farm to illuminate the piping connections at each storage tank and pump manifold areas.
• This lighting assists terminal personnel while working after dark. It also allows non-operating personnel such as truck drivers or police to determine if there are unauthorized persons within the storage tank areas.
• This lighting completely illuminates the areas where loading connections are made.
• The Company has installed lighting at all entrance gates and in the areas of the marine unloading dock.

40 CFR, 112.7 (h) Facility Tank Car And Tank Truck Loading/Unloading Rack

40 CFR, 112.7
(h) FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK
(1) TRANSFER AREA DRAINAGE
• The transfer areas are protected by a collection system, which is connected to the oil/water separator system in place. The deliveries by marine come in at both docks with collection drains at each dock. The pipeline manifolds are in areas that are curbed or graveled, and they ultimately drain to basins, which are connected to the oil/water separator.
• Deliveries by truck consist of additives, ethanol, and biodiesel, which are placed into tanks within containment areas. The truck rack is a covered area and provides 20,007 gallons of secondary containment, which exceeds the 9,000-gallon maximum truck tanker capacity
• There is no rail loading rack at this facility. There is a rail offloading area in which rail cars are emptied by suction from the bottom of the cars. Spillage is contained underneath the cars (59 gallons containment).
(2) INTERLOCKED WARNING LIGHT OR PHYSICAL BARRIER
• There is an automatic foam fire suppression system on the truck loading rack.
• There is an emergency shutdown system (ESD) at the loading rack, which can be activated automatically by fire detectors or manually by push buttons.
• Warning signs are visible at the loading rack to remind drivers to unhook the hose prior to departure.
• Drivers do not receive permission to load until the overfill protection system is connected to the truck and operating properly.
• The drivers must pass training standards for loading at the facility.
• Truck rack is equipped with a scully overfill protection system which would shutdown the loading automatically if it exceeded the level control setting to prevent overflow. It is tied directly to the rack control system and two sensing modules. The two separate sensing modules are for grounding of the truck and high product levels (overfill protection). There are indicator permissive lights for the drivers to know when both of these modules are connected properly.
(3) TRUCK DRAIN / OUTLET EXAMINATION
• The lower most drain and all outlets are inspected for discharges prior to filling and departure of all trucks and, if necessary, they are tightened, adjusted, or replaced to prevent liquid discharges while in transit. Drivers will be responsible for this inspection.

40 CFR, 112.7 (i) Brittle Fracture Evaluation Requirements

40 CFR, 112.7
(i) BRITTLE FRACTURE EVALUATION REQUIREMENTS
• The storage containers at this Facility are currently in light liquid service, there have been no major tank repairs or modifications that might affect the structural integrity of the steel.
• Facility management is aware that in the event modifications are made to storage containers, an evaluation must occur to determine if the structural integrity of the container is sufficient to safely manage the material to be stored and prevent brittle fracture or catastrophic failure.
• The Facility follows a program to inspect all storage tanks according to API 653 standards. The API 653 inspections will include structural steel evaluation.

40 CFR, 112.7 (j) State Discharge Prevention Requirements

40 CFR, 112.7
(j) STATE DISCHARGE PREVENTION REQUIREMENTS
• The facility has a Facility Response Plan (FRP) that are reviewed and approved by Oregon Department of Environmental Quality (DEQ).

40 CFR, 112.7 (k) Qualified Oil-Filled Operational Equipment

40 CFR, 112.7
(k) QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT
• There are 2 oil filled transformers on site that are owned and managed by the utility company. Visual external inspection is conducted on the transformer alongside daily AVO inspection.
(1) Qualification Criteria—Reportable Discharge History
• Not Applicable
(2) Alternative Requirements to General Secondary Containment
• Not Applicable
(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and
• A Facility Response Plan (FRP) is submitted to EPA, USCG and Oregon DEQ.
(ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:
• Not Applicable
(A) An oil spill contingency plan following the provisions of part 109 of this chapter.
• Not Applicable
(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.
• Not Applicable

40 CFR, 112.8 (a) General Requirements

40 CFR, 112.8
(a) GENERAL REQUIREMENTS
• The specific requirements are detailed in bulleted responses below. This Plan meets the general requirements listed under 40 CFR 112.7.

40 CFR, 112.8 (b) Facility Drainage

40 CFR, 112.8
(b) FACILITY DRAINAGE
(1) DRAINAGE FROM DIKED AREAS
• Company personnel are directed to not discharge storm water if contamination is found.
• Drainage from each diked area flows to the lower portion of the dike area and is controlled by valving, which diverts the flow to the on-site API oil/water separator. The Upper Drainage Area, the P-2 Drainage Area, including Tank Yards 1 through 3 flow to the main oil/water separator (P-2 oil/water separator) before discharge to the Willamette River via Outfall 001 (WR-78). Tank Yard 4 flows to the P-3 oil/water separator and then is released to the City of Portland sewer. Tank Area 5 flows through a series of Contech filters before discharge to the Willamette River via Outfall 002 (WR-152).
• All drain valves associated with containment systems will remain closed except when discharging. Drainage of containment areas will be performed manually.
• Prior to discharge, Terminal personnel will inspect accumulated storm water, and verify that water is clear and free of oil sheen. If sheen is observed, Operations personnel proceed to treat water using sorbents and/or diverting to oil/water separator. Operators must fill out Secondary Containment Drainage Log form before any discharge occurs (See Figure C-14).
(2) DRAIN VALVES
• These valves are maintained in a closed position, requiring a "Tee-handle" to be operated, except when discharging.
• All diked areas are visually inspected prior to opening the drain valves.
• The drain valves are constructed of steel, and are manually operated rising-stem gate valves.
(3) FACILITY DRAINAGE SYSTEM FROM UNDIKED AREAS
• This terminal was designed in accordance with 112.8(b)(3). Storm-water drainage is captured with surface drains throughout the Terminal, from there routed by piping to the large concrete oil/water separator. The site was graded to direct surface flow into the drains. Site discharge is downstream of the separator and in accordance with the Terminal NPDES Permit.
(4) DIVERSION SYSTEM
• This Terminal was designed in accordance with 112.8(b)(3).
(5) TREATED DRAINAGE WATERS
• Drainage water flows into onsite O/W separators or Contech Filter, and it discharges to either outfalls or City of Portland POTW system.

40 CFR, 112.8 (c) Bulk Storage Containers

40 CFR, 112.8
(c) BULK STORAGE CONTAINERS
(1) CONTAINER CONSTRUCTION AND MATERIALS
• All bulk storage tanks are constructed of welded or riveted steel to meet API standards (relating to oil storage tank construction).
• Welded steel tanks are considered industry standard for storage of petroleum products.
• These tanks are operated following API 650 or 653 standards for tanks that store petroleum products at 1.0 specific gravity, ambient or heated temperature, and ambient pressure.
• Tanks used for biodiesel fuel are heated to 60-80°F. See Figure C-5 for product reference corresponding to the tank.
• Each aboveground container covered by the SPCC rule is inspected on a regular schedule, and whenever material repairs are made, in accordance with the following industry standards: -American Petroleum Institute (API) Standard 653 for atmospheric storage tanks with a capacity of 50,000 gallons or more. -Steel Tank Institute (STI) Standard SP001 for atmospheric storage tanks with a capacity of less than 50,000 gallons. -API Standard 510 for pressurized storage vessels. An inspection schedule has been established (no later than November 10, 2011) for each above ground storage container identified in the SPCC plan based on the intervals prescribed in the applicable industry standard. For containers not previously inspected per an above industry standard, an inspection must be performed within 5 years of the SPCC rule revision effective date of November 10, 2016 (per EPA document "EPA Guidance for Regional Inspectors, Chapter 7"). The container inspection schedule is maintained by the Regional Tank Integrity Manager.
(2) SECONDARY CONTAINMENT
• All bulk storage tanks are provided with secondary containment in the form of sufficiently impervious dikes of compacted clay floors with concrete walls, with the exception of one compacted earthen wall with erosion prevention material on its surface. Berm 5 has an impervious liner.
• These dikes are constructed to contain the volume of the largest tank + the 25-year 24-hour storm.
(3) RAINWATER DRAINAGE
• If storm water is verified as uncontaminated, open discharge valve. Begin discharge of storm water.
• All drain valves will remain closed except when discharging.
• The Secondary Containment Drainage Log, FIGURE C-14, is used to record all dike draining events.
• Upon completion of the drainage, close and lock drain valve and record the securing of the drain valve on the Company Drainage Log.
• Inspect accumulated storm water. Verify that water is clear and free of oil sheen. If sheen is observed, proceed to treat water using sorbents and/or diverting to oil/water separator. Storm water is not discharged if contaminated.
• Storm water is collected within the secondary containment dikes then directed to the API oil water separators once valve is opened. The Company maintains a permit from the state of Oregon, to discharge uncontaminated storm water.
(4) BURIED METALLIC STORAGE TANKS
• A 15,000-gallon spill containment tank for the truck loading rack and it is not covered by UST regulations. When the tank is full of water, the contents are inspected by Company Operations personnel for an oil sheen prior to the contents being released to the OWS. If product or a sheen is present, it is removed by a vacuum truck. This tank has a protective coating, suitable for underground service, and it is regularly leak tested.
(5) PARTIALLY BURIED METALLIC STORAGE TANKS
• There are no partially buried tanks at this facility.
(6) ABOVEGROUND CONTAINERS
• All tanks are visually inspected monthly to determine their integrity. A monthly terminal inspection is performed to verify the condition of the terminal.
• The Company has developed a tank inspection program for all storage tanks in accordance with the API 653 Standard, which includes visual and other testing techniques.
(7) INTERNAL HEATING COILS
• Tanks 2113 and 3605 are equipped with internal heating coils to heat biodiesel fule in storage. Leakage control is achieved by regular monitoring (by observation of discharge at the steam outlet valve) as part of the process to ensure their integrity and sound operations.
(8) FAIL SAFE ENGINEERING
• To prevent overfilling of bulk storage tanks, Company personnel will monitor all filling operations using direct "side-reading" level gauges and manual gauging techniques.
• Tanks are equipped with side reading automatic gauges and high level alarms.

40 CFR, 112.8 (c) Bulk Storage Containers, Continued

40 CFR, 112.8
(c) BULK STORAGE CONTAINERS
(8) FAIL SAFE ENGINEERING
• These gauges are utilized to directly verify product level in the tank without the requirement to hand gauge the tank from the top.
• The side gauges and high level alarms are independent of each other and regularly inspected to verify their operational integrity.
• Pipeline surge control systems are in place and are operated and controlled by pipeline system operators. The surge control system for internal tank product movement includes clay valves designed to divert product from the inbound if a pressure surge is present in the system.
• If alarm is triggered during a transfer, the transfer is suspended until the terminal can verify that it is safe to continue. Once the alarm condition is verified to be in a safe state, the operation is manned for the duration of the product movement. If required, repairs will follow safe completion of the transfer.
• Signage is placed as markers at fence lines, property lines, right of way boundaries, and in open areas where the party exerting control over the surface use of right of way will permit such installation. Markers may consist of pipeline warning signs or posts installed to indicate the presence of buried pipeline. Procedures for pipeline markers installation is specified in NuStar Energy Pipeline Operations Maintenance Manual.
• Relief valves are utilized to relieve pressure due to thermal expansion of liquid in pipes. These valves remain closed when the pipeline system pressures are in normal operating range, and open automatically and permit the commodity to flow from the system when pressures rise above the design level. Commodity released by the relief valves is generally piped into tankage or lower pressure pipelines. Relief valves are kept closed by spring pressure or weight loading until the pressure set point is reached or exceeded.
• Tanks are equipped with overflow protection in the form of an electronic level-monitoring system that will issue both visual and audio alarms if they are triggered. These alarms are tested monthly. The tanks are manned whenever the facility is in the process of a tank transfer so that it can be halted following any alarm event.
(9) FACILITY EFFLUENTS
• The OWS is monitored each shift (part of AVOs performed), Box #1 of the OWS is skimmed as necessary; outfalls are observed daily; and the OWS is cleaned and maintained annually.
• Prior to the discharge of storm water from the dike field areas, Company personnel visually inspect the effluent.
• Storm water is not discharged if there is a visible sheen. The Company will treat the storm water to remove the oil sheen before discharging.
(10) VISIBLE OIL LEAKS
• All containment dikes are inspected on a monthly basis and prior to actual discharging to prevent the release of oil into navigable waters.
• Operators will inspect the product transfer as well as bulk storage container areas daily, and promptly correct any operations or facilities that show leakage.
• Facility equipment including storage tanks shall be inspected daily to verify the integrity of each item.
(11) MOBILE/PORTABLE STORAGE CONTAINERS
• Two totes of red dye are located within the tank truck loading rack containment. Three totes of Lubricity additive are located in the truck loading rack containment area. All have adequate secondary containment volumes.
• Varying quantities of drums containing waste generated by operators and contractors are temporarily stored within the hazardous waste storage area on secondary containment pallets pending disposal. The secondary containment pallets provide adequate secondary containment volumes (66 gallons per secondary containment pallet). The drums are transported and disposed in accordance with state and federal regulations within 90-days

40 CFR, 112.8 (d) Facility Transfer Operations, Pumping, And Facility Processes

40 CFR, 112.8
(d) FACILITY TRANSFER OPERATIONS, PUMPING, AND FACILITY PROCESSES
(1) BURIED PIPING INSTALLATIONS
• In the event that buried pipe is exposed for maintenance, it will be carefully inspected to identify any corrosion.
• Any corrosion of buried pipe shall require the affected area to be replaced and pressure tested prior to returning the pipe to service.
• All underground piping installed or replaced on or after August 16, 2002 is required to be equipped with a protective coating, and protected with Cathodic Protection. All buried piping installed or replaced on or after August 16, 2002, shall be properly wrapped and coated. It also will be cathodically protected, or the determination made by a qualified corrosion technician that the soil is not conducive to the corrosion of a buried metallic pipeline. It then must meet the requirements of 40 CFR 112.280. All underground piping meets the above requirements.
• Integrity and leak testing of buried piping shall be performed at the time of installation, modification, construction, relocation, or replacement.
(2) PIPING OUT OF SERVICE
• Any piping considered to be out of service will be disconnected from product transfer equipment and identified as such by the installation of caps and/or blind flanges.
• Out-of-service piping will also be properly labeled to identify the nature of the pipe condition.
(3) PIPING SUPPORTS
• Pipelines are nested on pipe supports to prevent un-necessary movement that might allow the pipe to fall from the support.
• All piping is configured to allow for expansion, while minimizing abrasion that might cause deterioration of the steel.
• Pipe supports and associated piping are protected against corrosion by exterior coatings.
• Pipelines and supports are inspected monthly to determine conditions.
• All pipe supports have been designed and installed using applicable engineering techniques.
(4) ABOVEGROUND VALVES AND PIPELINES
• Operators will inspect the product transfer areas daily, and correct any operations that show leakage.
• All Facility equipment, including pipelines and valves, shall be inspected monthly to verify the integrity of each item.
• Aboveground valve and pipeline inspections shall involve assessment of the general condition of items, including flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces.
• In the event underground pipeline inspections identify excessive corrosion and/or actual leaks, the Company will pressure test these pipelines to verify their integrity.
• If a pipeline fails the integrity testing, the Company shall repair or replace the pipe prior to returning the pipeline to service.
(5) VEHICULAR TRAFFIC
• All drivers are instructed to observe caution where overhead piping may interfere with the movement of tank trucks.
• The Company has developed a processs for certifying that new truck drivers are trained on the use of the loading rack and associated equipment, prior to issuing a driver card.
• Signs have been posted at facilities warning drivers of the presence of aboveground piping.
• Loading racks and the driveways that lead to and from the loading racks have been designed to allow the unobstructed movement of tank trucks through the facility.

FIGURE C-5 - TANK TABLES

Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,318,974									
703	Overfill / Rupture / Leakage	309,498	3,243,791 / 8	IFR	1938	242,718	Northeast / Instantaneous	Diesel / Renew able Diesel	API-653
1009	Overfill / Rupture / Leakage	392,887	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1981	366,366	Northeast / Instantaneous	Gasoline/Diesel/Transmix	API-653
1010	Overfill / Rupture / Leakage	393,264	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	342,636	Northeast / Instantaneous	Diesel / Biodiesel	API-653
1011	Overfill / Rupture / Leakage	393,149	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	384,510	Northeast / Instantaneous	Ethanol / Gasoline	API-653
2020	Overfill / Rupture / Leakage	821,940	3,970,434 / 8	IFR	1935	750,960	Northeast / Instantaneous	Gasoline/Diesel	API-653
2021	Overfill / Rupture / Leakage	832,032	3,970,434 / 8	IFR	1935	743,148	Northeast / Instantaneous	Gasoline/Diesel	API-653
2022	Overfill / Rupture / Leakage	832,032	3,970,434 / 8	IFR	1935	751,748	Northeast / Instantaneous	Gasoline/Diesel	API-653
2113	Overfill / Rupture / Leakage	865,857	3,243,791 / 8	IFR	1938	698,922	Northeast / Instantaneous	Bio Diesel	API-653
2511	Overfill / Rupture / Leakage	1,060,587	3,243,791 / 8	Cone	1925	1,001,742	Northeast / Instantaneous	Diesel / Renew able Diesel	API-653
2512	Overfill / Rupture / Leakage	1,049,887	3,243,791 / 8	Cone	1925	1,003,926	Northeast / Instantaneous	Diesel / Renew able Diesel	API-653
2705	Overfill / Rupture / Leakage	1,158,532	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	Cone	1980	981,246	Northeast / Instantaneous	Diesel / Biodiesel	API-653
2706	Overfill / Rupture / Leakage	1,085,895	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	1,071,000	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,318,974									
3201	Overfill / Rupture / Leakage	1,264,793	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,243,998	Northeast / Instantaneous	Ethanol	API-653
3203	Overfill / Rupture / Leakage	1,265,942	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,250,071	Northeast / Instantaneous	Gasoline/Diesel	API-653
3204	Overfill / Rupture / Leakage	1,267,302	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,249,542	Northeast / Instantaneous	Gas/Diesel	API-653
3510	Overfill / Rupture / Leakage	1,456,109	3,243,791 / 8	IFR	1937	1,172,430	Northeast / Instantaneous	Ethanol / Gasoline	API-653
3605	Overfill / Rupture / Leakage	1,236,060	3,243,791 / 8	IFR	1936	1,376,886	Northeast / Instantaneous	Diesel / Renew able Diesel	API-653
3614	Overfill / Rupture / Leakage	1,398,810	3,970,434 / 8	IFR	1958	1,295,238	Northeast / Instantaneous	Gasoline/Diesel	API-653
4402	Overfill / Rupture / Leakage	1,761,801	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1979	1,738,800	Northeast / Instantaneous	Gasoline/Diesel	API-653
4507	Overfill / Rupture / Leakage	1,849,692	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1980	1,825,740	Northeast / Instantaneous	Ethanol / Gasoline	API-653
5209	Overfill / Rupture / Leakage	2,190,678	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1971	1,997,100	Northeast / Instantaneous	Gasoline/Diesel	API-653
5618	Overfill / Rupture / Leakage	2,220,204	3,970,434 / 8	IFR	1958	2,142,294	Northeast / Instantaneous	Gasoline/Diesel	API-653
5901	Overfill / Rupture / Leakage	2,414,958	3,243,791 / 8	IFR	1929	2,032,182	Northeast / Instantaneous	Gasoline/Diesel	API-653
5902	Overfill / Rupture / Leakage	2,386,734	3,243,791 / 8	IFR	1929	2,006,802	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,318,974									
5919	Overfill / Rupture / Leakage	2,147,688	3,970,434 / 8	Cone	1935	2,259,642	Northeast / Instantaneous	Diesel	API-653
6408	Overfill / Rupture / Leakage	2,649,782	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1981	2,594,466	Northeast / Instantaneous	Gasoline/Diesel	API-653
8006	Overfill / Rupture / Leakage	3,379,698	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1953	3,004,722	Northeast / Instantaneous	Gasoline/Diesel	API-653
8007	Overfill / Rupture / Leakage	3,338,748	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1953	2,662,044	Northeast / Instantaneous	Gasoline/Diesel	API-653
8308	Overfill / Rupture / Leakage	3,352,746	5,292,636 / 8 (Berms 3&4 Interconnected Combined Volumes)	IFR	1969	3,061,632	Northeast / Instantaneous	Gasoline/Diesel	API-653
1315	Overfill / Rupture / Leakage	56,124	3,243,791 / 8	Cone	1938	51,366	Northeast / Instantaneous	Permanently Closed	API-653
1316	Overfill / Rupture / Leakage	56,112	3,243,791 / 8	Cone	1938	51,366	Northeast / Instantaneous	Permanently Closed	API-653
181	Overfill / Rupture / Leakage	7,685	10,129/ 2	Cone		3,000	Northeast / Instantaneous	Gasoline / Diesel Additive	API-653
23	Overfill / Rupture / Leakage	10,048	13,505/ 2	Cone		7,500	Northeast / Instantaneous	Gasoline / Diesel Additive	API-653
212	N/A	Stored Empty		-		0	Northeast / Instantaneous	N/A	SP001
10026	Overfill / Rupture / Leakage	4,200,000	5,390,281 / 8	IF	2007	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	API-653
10027	Overfill / Rupture / Leakage	4,200,000	5,390,281 / 8	IF	2007	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	API-653

FIGURE C-5 - TANK TABLES, CONTINUED

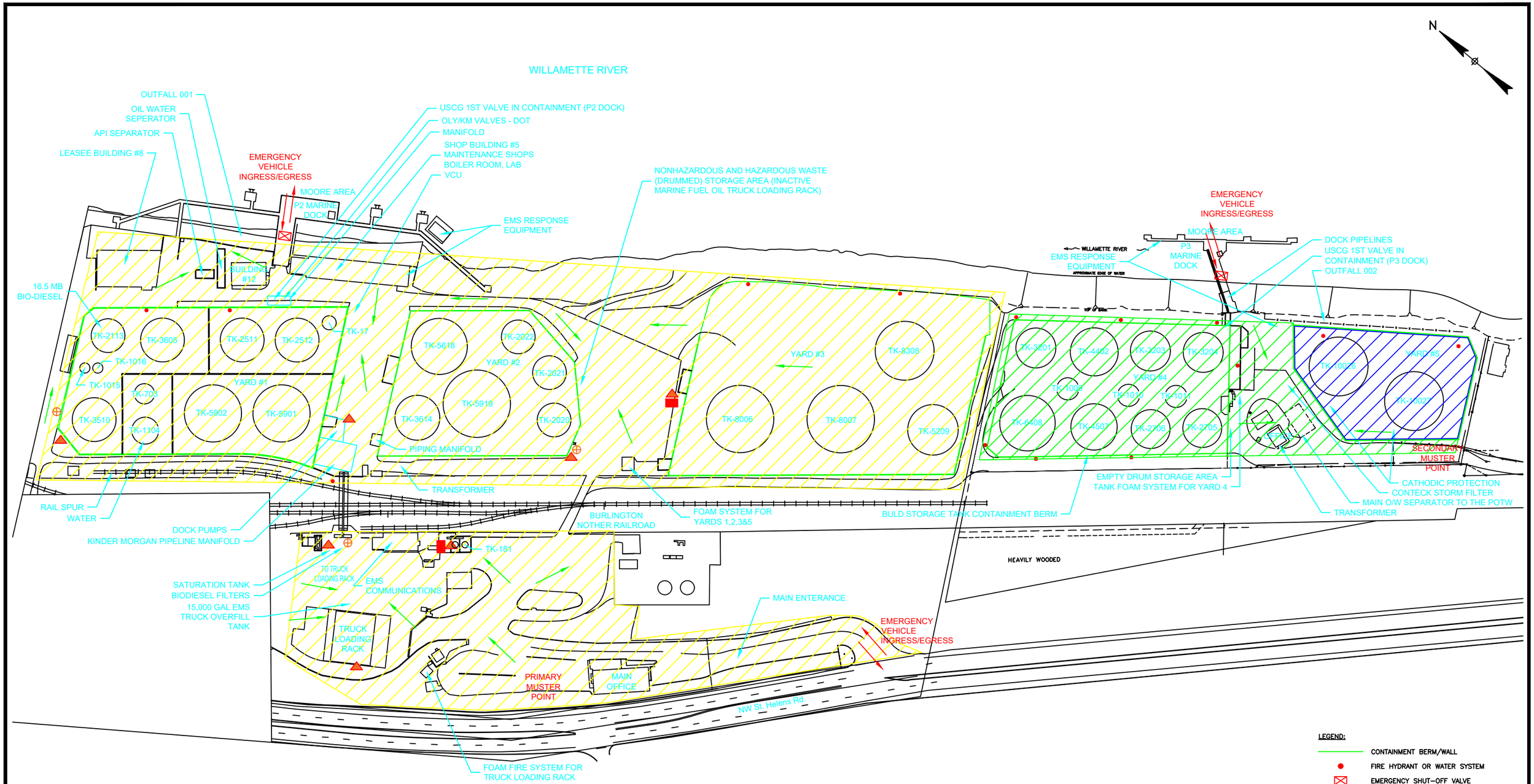
Container/ Source	Failure/ Cause	Storage Capacity (gal)	Secondary Containment Volume/Type (gal)	Tank Type	Year Constructed/ Installed	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Inspection Protocol
ABOVEGROUND CONTAINERS - Total: 53,318,974									
Tank 4 (Dryer Storage Tank)	-			-			-	Out of Service	API-653
Tank 01 (Oil Water Separator Tank)	-	3,700	67,000	-			-	-	SP001
Tank 17	-		3,243,791 / 8	-			-	-	API-653
Tank 1104	-		3,243,791 / 8	-			-	Permanently Closed	API-653
VCU Saturation Tank	Equipment Rupture	8,000	8,800 / 6	Double-Walled Horizontal	2021	8,000	South Southeast / Instantaneous	VCU Condensate	SP001
OIL FILLED ELECTRICAL EQUIPMENT - Total: 180									
Transformers (2 ea.)	Leak/ Rupture	180	996	-		180	Northeast / Instantaneous	Lube Oil	AVO
MISCELLANEOUS - Total: 6,849									
2 Tote - Red Dye	Overfill / Rupture / Leakage	300 each	16,159	Tote		600	Northeast / Instantaneous	Red Dye	AVO
3 Tote - Lubricity Additive	Overfill / Rupture / Leakage	300 each	16,159	Tote		900	Northeast / Instantaneous	Lubricity Additive	AVO
Rail Area	Hose Rupture	44	59	Railcar Hose		N/A	Contained	Diesel / Biodiesel / Ethanol	AVO
2 Drums - Investigation Derived Waste	Overfill / Rupture / Leakage	55	66 gal per secondary containment pallet	Drums			Contained	Petroleum Contact Water	AVO
Truck Rack	Hose rupture, overfill	6,000	16,159	-		N/A	Northeast / Instantaneous	Petroleum Products	AVO
Loading Arm	Hose rupture, overfill	750	16,159	-		N/A	Northeast / Instantaneous	Petroleum Products	AVO
Facility Total: 53,326,223									

Containment Type: 1=Earthen Berm and Floor, 2=Concrete Berm and Floor, 3=Earthen Berm and Concrete Floor, 4=Metal Berm and Floor, 5=Portable Containment or Inside Building, 6=Double Walled, 7=Coated Asphalt Materials, 8=Concrete Berm and Earthen, 9=Asphalt, Soil, and Concrete w alls and Earthen Floor, * Not in Containment Area, ** Curbing and containment system

FIGURE C-6 - ADDENDUM

Certification of this Spill Prevention, Control, and Countermeasure Plan is contingent upon correction of all discrepancies listed in this Addendum. The discrepancies for this facility are:

REGULATION	DISCREPANCY	PLAN OF ACTION	ESTIMATED TIME TO COMPLETE	DATE COMPLETED
40 CFR 112.8(c)(2)	Berm 3 may not be sufficiently impervious. Based on soil sampling Berm # 3 has a hydraulic conductivity (Ksat value) of 3 inches/hour. Factoring in that gasoline is less viscous than water: [1/0.4 = 7.5 inches/hour] 7.5 in./hr. would be the approximate flow rate for gasoline. If a tank ruptured, leak was discovered and all gasoline could be completely removed within 24 hours, the gasoline is estimated to travel 180 inches (15 feet) in this time. This could travel through the dike wall, which is adjacent to the river.	Installed fabric covering the dike wall	Completed 12/2013	Completed 12/2013
40 CFR 112.8(c)(2)	The Tank Yard 4 secondary containment capacity is not sufficient to contain 110% of the largest tank (Tank 6408) volume of 2,649,782 gallons. The pipe connecting Tank Yard 3 and Tank Yard 4 should remain in place.	The valve on the connection pipe between Tank Yard 3 and Tank Yard 4 is locked open and signage indicates that the normal valve position is open.	Completed 8/16/2019	Completed 8/16/2019



NOTES:
1) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.

REFERENCE DRAWINGS:

NO.	REVISION	BY	DATE	APR	
2	UPDATED CALLOUTS	BJZ	07/27/22		
1	UPDATED VALVE CONTAINMENT P2/P3 DOCK	BJZ	05/28/19	CC	CC
0	ISSUED	BJZ	06/07/16	CC	CC

NuStar Energy L.P.
19003 IH-10 West
San Antonio, Texas 78257
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION:	Portland, OR		
DRAWN BY: B. ZEPPIERI		DATE: 06/07/16	
CHECKED: C. CHAN		DATE: 06/07/16	
APPROVED: C. CHAN		DATE: 06/07/16	
SCALE: NONE			

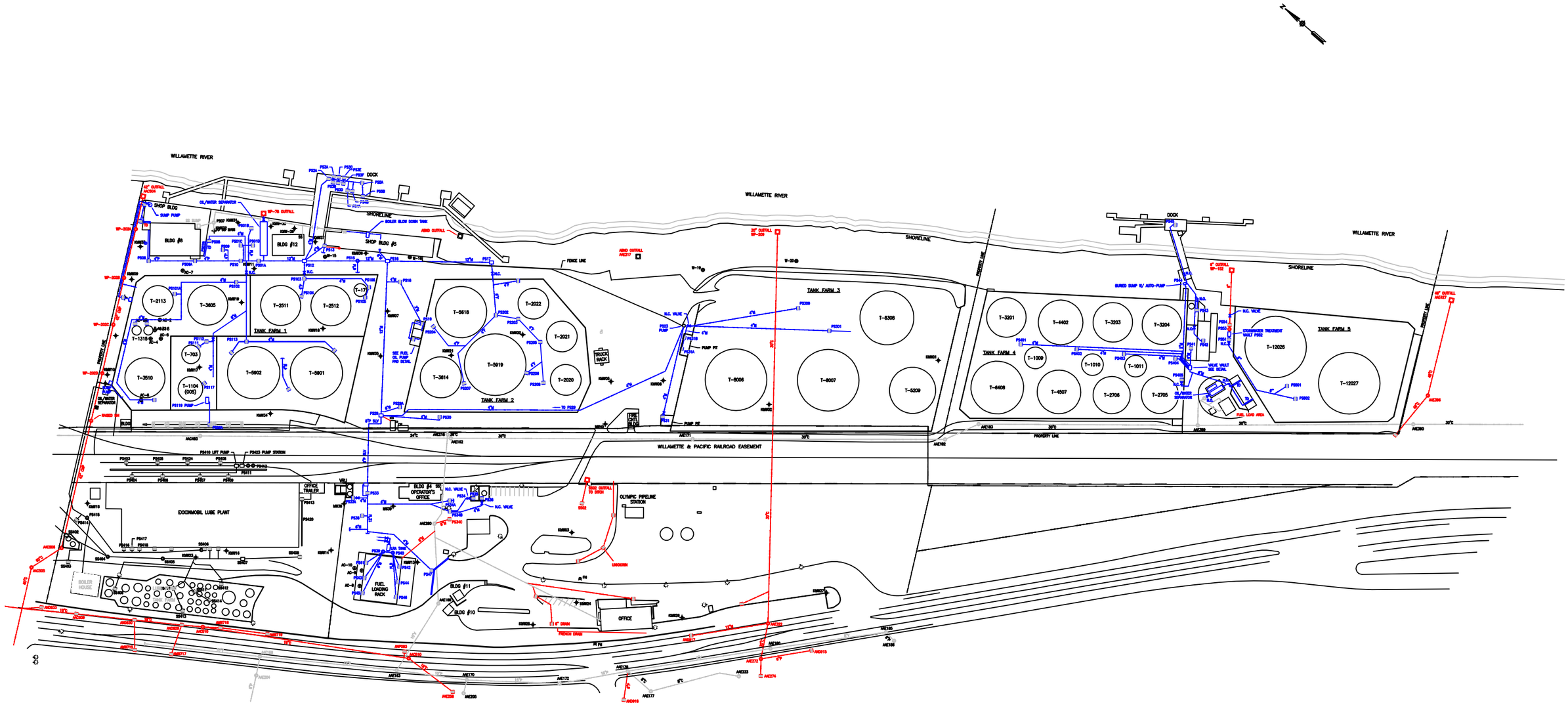
PORTLAND TERMINAL
HS&E (HEALTH, SAFETY & ENVIRONMENT) SITE DRAINAGE PLAN

ORIGINAL PROJECT NO.

DRAWING NO. PORT-09-004 REV. 2

FIGURE C-7 - DRAINAGE DIAGRAM

Click to view/print Drainage Areas and Topo



NOTES:
1) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.

REFERENCE DRAWINGS:

NO.	REVISION	BY	DATE	APR	
2	UPDATED PER FIELD CHANGES	BJZ	12/07/18	KP	KP
1	UPDATED PER FIELD MARK-UP, ADDED NEW DRAIN LOCATIONS	BJZ	11/19/18	KP	KP
0	ISSUED				

NuStar Energy L.P.
19003 IH-10 WEST
San Antonio, Texas 78257
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION:	PORTLAND, OR		
DRAWN BY: B. ZEPPIERI		DATE: 02/07/16	
CHECKED:		DATE:	
APPROVED:		DATE:	
SCALE: NONE			

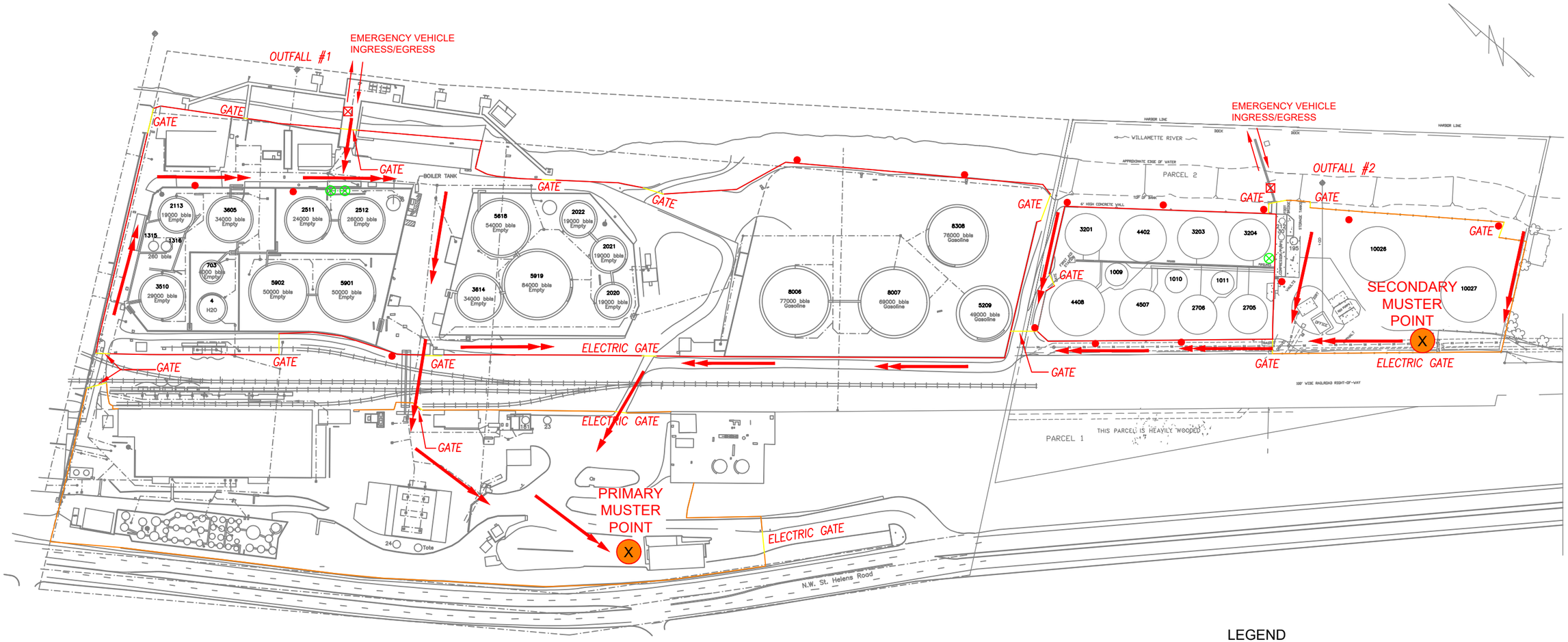
PORTLAND TERMINAL TOPOGRAPHY SURVEY

ORIGINAL PROJECT NO.

DRAWING NO. PORT-30-002 REV. 2

FIGURE C-7 - DRAINAGE DIAGRAM, CONTINUED

Click to view/print Drainage Piping Diagram



PORTLAND, OREGON

LEGEND

- EVACUATION ROUTE / SAFE AREA
- FENCE
- RESTRICTED AREA FENCING
- GATES
- BLOCK VALVES FOR DOCK PIPING
- MUSTER POINT
- FIRE HYDRANT OR WATER SYSTEM
- EMERGENCY SHUT-OFF VALVE

NOTES:
1) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.

REFERENCE DRAWINGS:

NO.	REVISION	BY	DATE	APR
1	UPDATED EVACUATION PATH PER C-8 DRAWING	BJZ	08/11/22	
0	ISSUED	SV	12/16/06	

NuStar Energy L.P.
19003 IH-10 WEST
San Antonio, Texas 78257
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION:	PORTLAND, OR		
DRAWN BY: SV		DATE: 12/13/06	
CHECKED: WW		DATE: 12/13/06	
APPROVED: WW		DATE: 12/13/06	
SCALE: NONE			

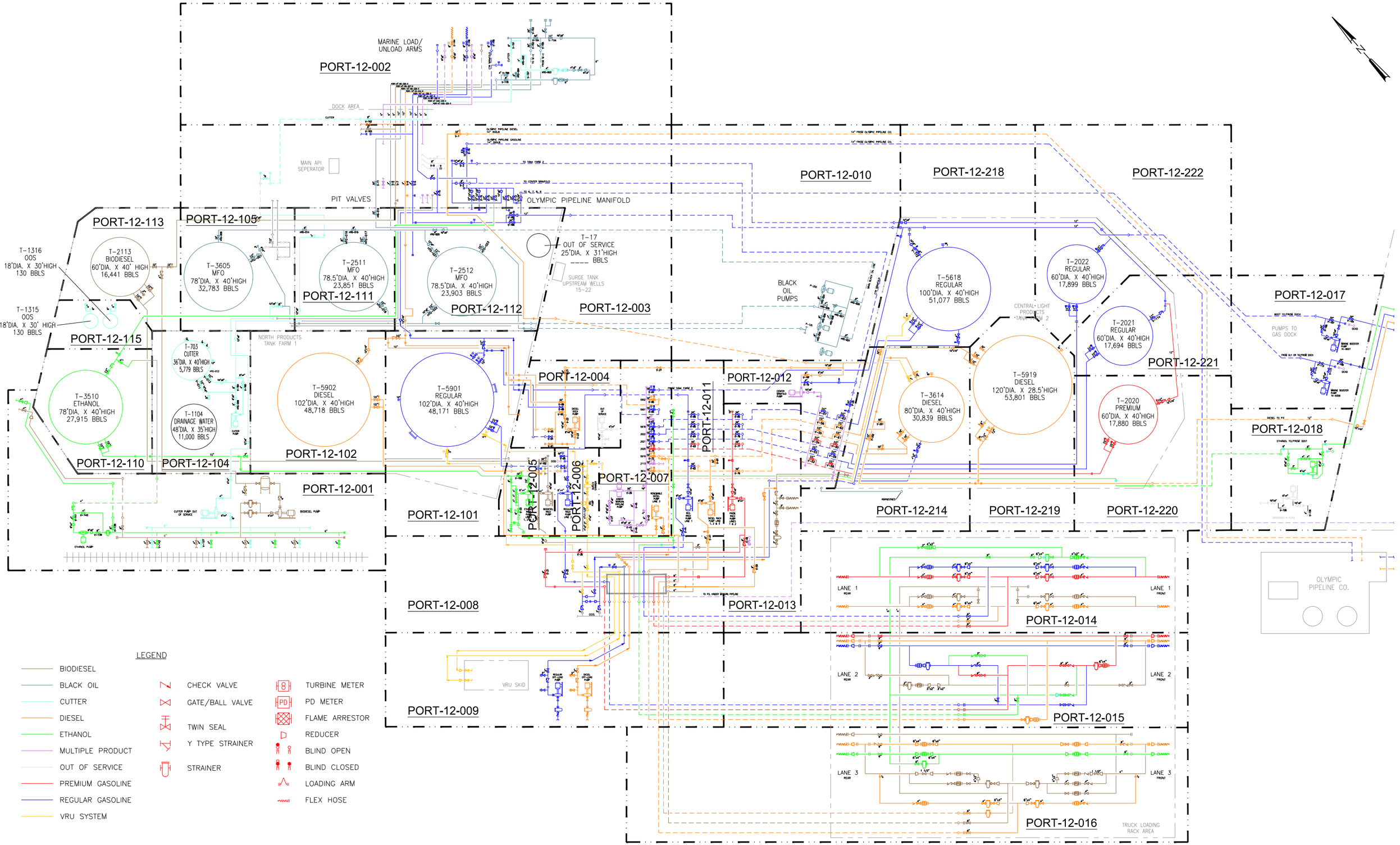
PORTLAND TERMINAL
HS&E (HEALTH, SAFETY & ENVIRONMENTAL) EVACUATION PLAN

ORIGINAL PROJECT NO.

DRAWING NO. PORT-09-001 REV. 1

FIGURE C-8 - EVACUATION DIAGRAM

Click to view/print Evacuation Diagram



NOTES:

REFERENCE DRAWINGS:
PORT-21-007

NO.	REVISION	BY	DATE	APR	
6	UPDATED CONNECTION FROM REG. RACK PUMP	BJZ	02/06/15	KP	
10	UPDATED PER FIELD PROJECTS	BJZ	02/15/18	KP	
9	UPDATED LANE 1 PIPING	BJZ	12/18/17	KP	
8	UPDATED PER RENEWABLE DIESEL PROJECT	BJZ	04/20/17	KP	DJ
7	UPDATED	BJZ	12/11/15	KP	

NuStar Energy L.P.
2330 Loop 1604 W
San Antonio, Texas 78248
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION: 9420 NW ST. HELENS RD., PORTLAND, OR 97231			
DRAWN BY: WHR	**DATE:** 3/22/10		
CHECKED: KDL	**DATE:** 4/9/10		
APPROVED:	**DATE:**		
SCALE: NOT TO SCALE			

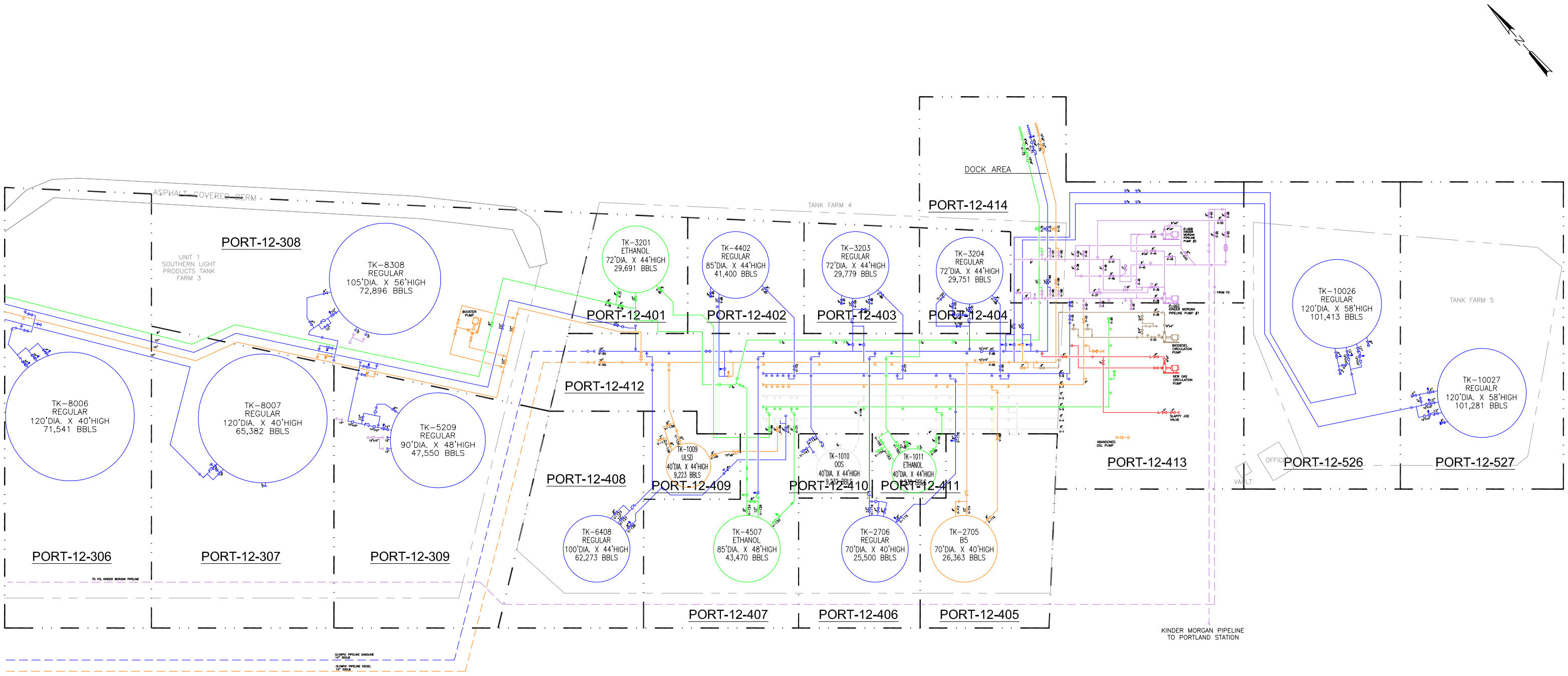
PORTLAND TERMINAL
PROCESS FLOW DIAGRAM
1 OF 2

ORIGINAL PROJECT NO.

DRAWING NO. PORT-11-001 **REV.** 10

FIGURE C-9 - PIPING DIAGRAM

Click to view/print Piping Diagram (Yard 1 & 2)



LEGEND

- BIODIESEL
- BLACK OIL
- CUTTER
- DIESEL
- ETHANOL
- MULTIPLE PRODUCT
- OUT OF SERVICE
- PREMIUM GASOLINE
- REGULAR GASOLINE
- CHECK VALVE
- GATE/BALL VALVE
- TWIN SEAL
- Y TYPE STRAINER
- STRAINER
- TURBINE METER
- PD METER
- FLAME ARRESTOR
- REDUCER
- BLIND OPEN
- BLIND CLOSED
- LOADING ARM
- FLEX HOSE

NOTES:

REFERENCE DRAWINGS:
PORT-21-007

NO.	REVISION	BY	DATE	APR	
14	UPDATED PER FIELD WALKDOWN	BJZ	08/30/18	KP	
13	UPDATED PER FIELD WORK	BJZ	06/27/18	KP	
12	UPDATED PER FIELD PROJECTS TK-8006/8308/5209	BJZ	02/16/18	KP	
16	UPDATED P3 VALVES MOVED INTO CONTAINMENT	BJZ	12/05/18	KP	DJ
15	UPDATED PER FIELD MARK-UP ADDED VALVE, REMOVED OOS PIPING	BJZ	11/19/18	KP	KP

NuStar Energy L.P.
2330 Loop 1604 W
San Antonio, Texas 78248
Tel: (210) 918-2000
1-800-866-9060

PROJECT LOCATION: 9420 NW ST. HELENS RD., PORTLAND, OR 97231

DRAWN BY: WHR	**DATE:** 3/22/10
CHECKED: KDL	**DATE:** 4/9/10
APPROVED:	**DATE:**
SCALE: NOT TO SCALE	

PORTLAND TERMINAL
PROCESS FLOW DIAGRAM
2 OF 2

ORIGINAL PROJECT NO.

DRAWING NO. PORT-11-002 **REV.** 16

FIGURE C-9 - PIPING DIAGRAM, CONTINUED

Click to view/print Piping Diagram (Yard 3, 4 & 5)

LEGEND

- CONTAINMENT BERM/WALL
- FIRE HYDRANT OR WATER SYSTEM
- EMERGENCY SHUT-OFF VALVE
- TRANSFER PIPING

N

0 120 240

SCALE: 1" = 120'

REV	DATE	DESCRIPTION	DSN	CHK	API
A		ISSUED FOR REVIEW			
B		ISSUED FOR REVIEW			
0		ISSUED FOR CONSTRUCTION			
1		ISSUED FOR CONSTRUCTION			

PREPARED BY:

SECOR

57 Lafayette Circle,2nd Floor
Lafayette, CA
PHONE:(925) 299-9300 **FAX:**(925) 299-9302

FOR:

NuStar

TITLE:

SITE PIPING PLAN
Portland Terminal
9420 NW St. Helens Road
Portland, OR

DRAWN BY: DRM	DESIGNED BY:
CHECKED BY:	APPROVED BY:
PROJECT NUMBER: 89IN.32202.02	SCALE: AS SHOWN
DATE: 11/8/07	FILE PATH: P:\NUSTAR\PORTLAND

FIGURE

4

FIGURE C-9 - PIPING DIAGRAM, CONTINUED

Click to view/print Piping Diagram

Square Footage Calculation																	
Containment Area Name or Number	Yard 1 Containment Area (Portland Facility)																
Tank ID Number	703	1015	1016	1104	2113	2511	2512	3510	3605	5902	17	5901					
Tank Height (ft)	40			40	40	40	40	40	40	40	27						
Diameter (ft)	36	16	16	48	60	78.5	78.5	78	78	102	25						
Radius (ft)	18	8	8	24	30	39.25	39.25	39	39	51	12.5						
Square Footage	1,018	201	201	1,810	2,827	4,840	4,840	4,778	4,778	8,171	491						
Tank Capacity (gal)	309,498	56,124	56,112	541,420	865,857	1,060,587	1,049,887	1,456,109	1,442,470	2,386,734	99,162	2,414,958					
Total Square Footage of Tanks Displacement (Line 6 Totals)																	33,956
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above																121,960
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)																33,956
Net Square Footage	Area minus tank displacement (Line 10 minus line 11)																88,004
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.																5.29
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)																465,544
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.																3,482,267
Rainfall Adjustments and Capacity Adequacy																	
Average Fill Depth	From line 13 above																5.29
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches																3.75
Rainfall equivalent in decimal feet	Convert to feet																0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)																4.98
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 13) x adjusted fill depth (Line 20)																438,042
Deadwood/Occupied Volume (Cubic Feet)	Ancillary Equipment (foundations, pumps, piping, etc.) - Estimate approximately 1% of the total containment volume is occupied																4,380
Secondary Containment Volume (With Rainfall and Deadwood Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 -Line 22) x 7.48																3,243,791
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area.																5901
Volume of Largest Tank (Gallons)	Tank volume in gallons																2,414,958
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10																1.34

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Average Fill Depth for Tank Yard 1 containment area from previous SPCC plan was used.
3. Assumes failure of Tank 5901. Dimensions intentially left blank.

FIGURE C-10 - CONTAINMENT CALCULATION

Click to view/print Yard 1 Containment Calculations

Square Footage Calculation															
Containment Area Name or Number	Yard 2 Containment Area (Portland Facility)														
Tank ID Number	2020	2021	2022	3614	5919	5618									
Tank Height (ft)	40	40	40	40											
Diameter (ft)	60	60	60	80	120										
Radius (ft)	30	30	30	40	60										
Square Footage	2,827	2,827	2,827	5,027	11,310										
Tank Capacity (gal)	821,940	832,032	832,032	1,398,810	2,147,688	2,220,204									
Total Square Footage of Tanks Displacement (Line 6 Totals)															24,819
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above														80,165
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)														24,819
Net Square Footage	Area minus tank displacement (Line 10 minus line 11)														55,346
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.														10
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)														553,464
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.														4,139,912
Rainfall Adjustments and Capacity Adequacy															
Average Fill Depth	From line 13 above														10
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches														3.75
Rainfall equivalent in decimal feet	Convert to feet														0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)														9.69
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 14) x adjusted fill depth (Line 20)														536,168
Deadwood/Occupied Volume (Cubic Feet)	Ancillary Equipment (foundations, pumps, piping, etc.) - Estimate approximately 1% of the total containment volume is occupied														5,362
Secondary Containment Volume (With Rainfall and Deadwood Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 -Line 22) x 7.48														3,970,434
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area.														5618
Volume of Largest Tank (Gallons)	Tank volume in gallons														2,220,204
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10														1.79

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Average Fill Depth for Tank Yard 2 containment area from previous SPCC plan was used.
3. Assumes failure of Tank 5618. Dimensions intentially left blank.

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 2 Containment Calculations

Square Footage Calculation																
Containment Area Name or Number	Yard 3 and Yard 4 Combined Containment Area (Portland Facility)															
	Yard 3				Yard 4											
Tank ID Number	5209	8007	8308	8006	1009	1010	1011	2705	2706	3201	3203	3204	4402	4507	6408	
Tank Height (ft)	48	40			44	44		40	40		44				48	
Diameter (ft)	90	120	102		40	40	40	70	70	72	72	72	85	83.5	100	
Radius (ft)	45	60	51		20	20	20	35	35	36	36	36	42.5	41.75	50	
Square Footage	6,362	11310	8,171	0	1,257	1257	1257	3,848	3,848	4,072	4,072	4,072	5,675	5476	7854	
Tank Capacity (gal)	2,190,678	3,338,748	3,352,746	3,379,698	392,887	393,264	393,149	1,158,532	1,085,895	1,264,793	1,265,942	1,267,302	1,761,801	1,849,692	2,649,782	
Total Square Footage of Tanks Displacement (Line 6 Totals)																68,529
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above															247,320
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)															68,529
Net Square Footage	Area minus tank displacement (Line 10 minus line 11)															178,791
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.															4.31
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)															770,591
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.															5,764,022
Rainfall Adjustments and Capacity Adequacy																
Average Fill Depth	From line 13 above															4.31
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches															3.75
Rainfall equivalent in decimal feet	Convert to feet															0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)															4.00
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 14) x adjusted fill depth (Line 20)															714,719
Deadwood/Occupied Volume (Cubic Feet)	Ancillary Equipment (foundations, pumps, piping, etc.) - Estimate approximately 1% of the total containment volume is occupied															7,147
Secondary Containment Volume (With Rainfall and Deadwood Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 -Line 22) x 7.48															5,292,636
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area. Assumes failure of the largest tank in the combined Yard 3 and Yard 4 area.															8006
Volume of Largest Tank (Gallons)	Tank volume in gallons															3,379,698
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10															1.57

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Assumes that pipe connecting Yard 3 and Yard 4 are connected.
3. Average Fill Depth for Tank Yard 3 containment area from previous SPCC plan was used.
4. Assumes failure of Tank 8006. Dimensions intentially left blank.

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 3 and 4 Combined Containment Calculations

Square Footage Calculation																
Containment Area Name or Number	Yard 5 Containment Area (Portland Facility)															
Tank ID Number	10026	10027														
Tank Height (ft)	58															
Diameter (ft)	120															
Radius (ft)	60															
Square Footage	11,310															
Tank Capacity (gal)	4,200,000	4,200,000														
Total Square Footage of Tanks Displacement (Line 6 Totals)																11,310
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above															64,490
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)															11,310
Net Square Footage	Area minus tank displacement (Line 10 minus line 11)															53,180
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.															14
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)															744,524
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.															5,569,038
Rainfall Adjustments and Capacity Adequacy																
Average Fill Depth	From line 13 above															14
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches															3.75
Rainfall equivalent in decimal feet	Convert to feet															0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)															13.69
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 14) x adjusted fill depth (Line 20)															727,905
Deadwood/Occupied Volume (Cubic Feet)	Ancillary Equipment (foundations, pumps, piping, etc.) - Estimate approximately 1% of the total containment volume is occupied															7,279
Secondary Containment Volume (With Rainfall and Deadwood Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 -Line 22) x 7.48															5,390,281
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area.															10027
Volume of Largest Tank (Gallons)	Tank volume in gallons															4,200,000
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10															1.28

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Average Fill Depth for Tank Yard 5 containment area from previous SPCC plan was used.
3. Assumes failure of Tank 10027. Dimensions intentially left blank.

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Yard 5 Containment Calculations

Square Footage Calculation																
Containment Area Name or Number	Additive Tank 23 Containment Area (Portland Facility)															
Tank ID Number	23															
Tank Height (ft)																
Diameter (ft)	11															
Radius (ft)	5.5															
Square Footage	95															
Tank Capacity (gal)	10,048															
Total Square Footage of Tanks Displacement (Line 6 Totals)																See Note 3
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above															509
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)															See Note 3
Net Square Footage	Area minus occupied area displacement (Assume containment area is 10% occupied by piping, tank footing, etc.)															459
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.															4.25
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)															1,949
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.															14,577
Rainfall Adjustments and Capacity Adequacy																
Average Fill Depth	From line 13 above															4.25
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches															3.75
Rainfall equivalent in decimal feet	Convert to feet															0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)															3.94
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 14) x adjusted fill depth (Line 20)															1,805
Secondary Containment Volume (With Rainfall Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 x 7.48)															13,505
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area.															23
Volume of Largest Tank (Gallons)	Tank volume in gallons															10,048
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10															1.34

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Average Fill Depth for containment area based on field measurments.
3. Assumes failure of Additive Tank 23, no other tanks occupying containment area.

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Additive Tank 23 Containment Calculations

Square Footage Calculation																
Containment Area Name or Number	Additive Tank 181 Containment Area (Portland Facility)															
Tank ID Number	181															
Tank Height (ft)																
Diameter (ft)	11															
Radius (ft)	5.5															
Square Footage	95															
Tank Capacity (gal)	7,685															
Total Square Footage of Tanks Displacement (Line 6 Totals)																See note 3
Square Footage of Area (avg inclusion area)	Area from survey or calculation: Enter square feet above															382
Total Square Footage of Displacement Tanks	Derived from above calculation (Line 9)															See note 3
Net Square Footage	Area minus occupied area displacement (Assume containment area is 10% occupied by piping, tank footing, etc.)															344
Average Fill Dpeth	Based on lowest wall height. Enter in decimal.															4.25
Net Cubic Footage of Area	Square footage X wall height (Line 12 x Line 13)															1,462
Volume of Area (Gallons)	Net Cubic footage x 7.48. This number represents the secondary containment capacity for the tank table: Enter this number on the tank table.															10,933
Rainfall Adjustments and Capacity Adequacy																
Average Fill Depth	From line 13 above															4.25
Enter 25 yr/24 hr rainfall (inches)	From precipitation chart. Enter in inches															3.75
Rainfall equivalent in decimal feet	Convert to feet															0.31
Adjusted Fill Depth	Wall height minus precipitation (Line 17 minus Line 19)															3.94
Secondary Containment Volume (With Rainfall Allowance) in Cubic Feet	Cubic footage of area (Line 14) x adjusted fill depth (Line 20)															1,354
Secondary Containment Volume (With Rainfall Allowance) in Gallons	Adjusted cubic footage x 7.48 (Line 21 x 7.48)															10,129
ID Number of Largest Tank in Area	From tank data. Enter the tank identifier (number) of the largest in the area.															181
Volume of Largest Tank (Gallons)	Tank volume in gallons															7,685
Volume Factor of Largest Tank	Adjusted (for rainfall) secondary containment volume (Line 22) divided by the largest tank capacity (Line 24). Results must be greater than 1.10															1.32

Notes:

1. https://wrcc.dri.edu/Climate/precip_freq_maps.php
2. Average Fill Depth for containment area based on field measurments.
3. Assumes failure of Additive Tank 181, no other tanks occupying containment area.

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Additive Tank 181 Containment Calculations

Containment Area Calculations
Shore Terminals - Portland
Portland, Oregon

Truck Loading Rack

Area =	Length (ft)	x	Width (ft)			**Assumptions**
	91.8	x	111	10,190	ft^2	Based on field observations.
Curb Height =	3.5 inches			0.292	ft	Based on field observations.
Total Volume =	Area (ft^2)	x	Height (ft)			
	10,190	x	0.292	2,972	ft^3	
Effective Volume (90%)				2,675	ft^3	Loading rack structure occupies 10% of the containment space.
Effective volume of Truck Loading Rack Containment				**20,008**	**gallons**	

Ethanol/Biodiesel Offload Area

Area =	Length (ft)	x	Width (ft)			**Assumptions**
	167	x	16	2,672	ft^2	Based on field observations.
Curb Height =	3 inches			0.250	ft	Based on field observations.
Total Volume =	Area (ft^2)	x	Height (ft)			
	2,672	x	0.250	668	ft^3	
Effective Volume (90%)				601	ft^3	10% of the containment space is occupied.
Effective volume of Ethanol/Biodiesel Offload Area Containment				**4,497**	**gallons**	

Gasoline/Diesel Offload Area

Area =	Length (ft)	x	Width (ft)			**Assumptions**
	8.5		12.5	106	ft^2	Based on field observations.
Curb Height =	4 inches			0.333	ft	Based on field observations.
Total Volume =	Area (ft^2)	x	Height (ft)			
	106	x	0.333	35	ft^3	
Effective Volume (80%)				28	ft^3	20% of the containment space is occupied by the pump pads.
Effective volume of Ethanol/Biodiesel Offload Area Containment				**212**	**gallons**	

Biodiesel Filters

Area =	Length (ft)	x	Width (ft)			**Assumptions**
	17.5		8.5	149	ft^2	Based on field observations.
Curb Height =	6 inches			0.500	ft	Based on field observations.
Total Volume =	Area (ft^2)	x	Height (ft)			
	149	x	0.500	74	ft^3	
Effective Volume (80%)				60	ft^3	20% of the containment space is occupied by the filter pads and structure.
Effective volume of Biodiesel Filter Area Containment				**445**	**gallons**	

Kinder Morgan Pipeline Manifold Area

						Assumptions
Area =				5,100	ft^2	Based on field observations.
Curb Height =	5		inches	0.417	ft	Based on field observations.
Effective Curb Height	5 inches	-	3.75 inches	1.25	inches	Allowance for rainfall (3.75 inches) based on 25-yr, 24-hr storm event.
Effective Curb Height				0.10	ft	
Total Volume =	Area (ft^2)	x	Height (ft)			
	5100	x	0.10	531	ft^3	
Occupied Volume (20%)				106	ft^3	20% of the containment space is occupied by the filter pads and structure.
Effective volume of Kinder Morgan Piping Manifold Area Containment				**3,154**	**gallons**	

Tank Yard 2 Pump Manifold Area

						Assumptions
Area =				600	ft^2	Based on field observations.
Curb Height =	5		inches	0.417	ft	Based on field observations.
Effective Curb Height	5 inches	-	3.75 inches	1.25	inches	Allowance for rainfall (3.75 inches) based on 25-yr, 24-hr storm event.
Effective Curb Height				0.10	ft	
Total Volume =	Area (ft^2)	x	Height (ft)			
	600	x	0.10	63	ft^3	
Occupied Volume (20%)				13	ft^3	20% of the containment space is occupied by the filter pads and structure.
Effective volume of Yard 2 Piping Manifold Area Containment				**371**	**gallons**	

FIGURE C-10 - CONTAINMENT CALCULATION, CONTINUED

Click to view/print Other Containment Area Calculations

FIGURE C-11 - DISCHARGE PREVENTION MEETING LOG

Spill Prevention Briefing

- Company personnel are kept knowledgeable of equipment, safety factors, and operating conditions.
- Annual training sessions are conducted by the Training Manager to assure oil handling personnel understand the SPCC Plan for the facility. These documented sessions keep personnel informed of their obligation to prevent pollution incidents and to improve spill control and response techniques.

Note: This form is a sample.

DATE	ATTENDEES	
Subject/Issue Identified	**Required Action**	**Implementation Date**

FIGURE C-12 - INSPECTION PROCEDURES

INSPECTION PROCEDURES	DATE
A. ROUTINE VISUAL INSPECTIONS	
• Check tank connections for leaks and localized dead vegetation	
• Inspect drains for accumulation of oil	
• Check tanks for gaps between tank and foundation and damage caused by vegetation roots	
• Check valves and packing for leaks	
• Check drains and sumps for accumulation of oil and proper operation of level controls and pumps	
• Check tank seams for leaks, including drips, puddles, discolored area or localized dead vegetation	
• Check all tank and piping surfaces for signs of external corrosion	
• Check base of tanks for evidence of settling, leaks, including drips, puddles or discolored areas	
• Check piping for bowing between supports, leaks, including drips, puddles, discolored area, or localized dead vegetation	
• Check vent system outlets to ensure that they are not obstructed	
• Check secondary containment for discoloration and cracks or holes. Special attention should be given to seams and locations where piping goes through the deck, curbing or dikes. Ensure dike valves are closed and sealed	
• Check secondary containment for permeability, debris, erosion, location/status of pipes, inlets, drainage beneath tanks, and level of precipitation in dike vs. available capacity	
• Check secondary containment for presence of water in diked area. Follow appropriate Company procedures after visual inspection of the water to determine if sheen is present on the water	
• Check all gates to ensure that only the entrances/exits currently in use by authorized personnel are open and unlocked	
B. ANNUAL INSPECTIONS	
• Check facility lighting to ensure all are functioning	

FIGURE C-12 - INSPECTION PROCEDURES, CONTINUED

INSPECTION PROCEDURES	DATE
• Check facility fencing for damages that would allow unauthorized entry	
• Inspect sumps for the accumulation of oil	
• Inspect diked/curbed areas for the accumulation of oil	
• Inspect drip pans on lift stations for the accumulation of oil	
• Inspect all tanks for proper operation including gauges, sight glasses, level controls and pressure controls	
• Inspect valves and valve glands for proper operation and ensure complete valve closure (leak proof)	
• Inspect sump for proper operation. Manually gauge sump and pump out if level is high	
• Examine the outside of the tank for signs of corrosion, damaged paint surfaces and signs of leaking	
• Inspect pipelines for signs of leaking or damage	
• Inspect flanges for signs of leaking or damage	
• Inspect joints for signs of leaking or damage	
• Pipeline and tank corrosion inspection frequency, guidance and repair are conducted in accordance to NuStar corrosion Control Manual. Annual Cathodic Protection Surveys for pipeline is conducted (not to exceed 15 months) to evaluate the effectiveness of the corrosion control program.	
• Pipeline corrosion inspection is conducted in accordance to NuStar Corrosion Manual as they are in accordance to specification outlined in 49CFR Part 195, Subpart H.	
C. RECORD KEEPING	
• All inspections, except routine, are to be documented on the forms provided in the Appendix and retained at the Facility. Records shall be maintained for a period of five (5) years. The following is a list of documentation forms available in the Appendix:	
• Annual Inspection Record (FIGURE C-13)	

Note: More stringent inspections, as required by Company procedures and documented on other forms, may be used to supplement or replace SPCC inspection records. These documents must be retained for five (5) years.

FIGURE C-13 - ANNUAL INSPECTION RECORD

(Other versions of this form may be used)

YEAR	MONTH	DATE	INITIALS	COMMENTS

FIGURE C-14 - SECONDARY CONTAINMENT DRAINAGE LOG

(Other versions of this form may be used)

DATE	TIME STARTED	TIME ENDED	OPERATOR NAME	SIGNATURE	COMMENTS

FIGURE C-15 - REPORTABLE SPILL HISTORY

Date of Discharge(s):	June 15, 2010
List of Discharge Causes:	San Juan Industries, an approved contractor for NuStar Energy, was removing a hydraulic ram from a marine loading arm for repair. The load arm was in the number 2 position on the Portland P2 dock. The ram was approximately 25 feet above the deck and 9 feet from the docks edge. The loading arm was installed within a concrete containment basin. During the disconnection of the ram to allow for removal and repair, approximately ½ gallon of hydraulic fluid leaked from an open fitting and sprayed across the wharf to the Willamette River. The terminal began the removal process by locking out the load arm. The contractor then continued the project, disconnecting two cables from the hydraulic ram and then disconnecting two 3/8" hydraulic fluid lines. The ram was installed on the load arm in the vertical position. One of the cables was connected to a piston inside of the ram. Disconnecting the cable allowed the piston free travel once the hydraulic fluid was drained from the cylinder. As the hydraulic lines were disconnected, the lines were capped and the fluid was drained to a drain pan. The connections points necessarily remained open to allow the hydraulic fluid to drain out of the cylinder. Approximately 5 to 10 minutes after the draining process was complete, the piston inside of the ram dropped approximately 1 to 2 feet. The force and weight of the piston expelled residual fluid and clingage inside the cylinder out of a 3/8" drain hole and sprayed the fluid 9' to the Willamette River.
Material(s) Discharged:	hydraulic fluid
Amount of Discharges in Gallons:	1/2 (gals)
Amount That Reached Navigable Waters (if applicable):	1/2 (gals)
Effectiveness and Capacity of Secondary Containment:	N/A
Cleanup Actions Taken:	N/A
Steps Taken to Reduce Possibility of Reoccurrence:	Loading arm was removed and will not be replaced.
Total Oil Storage Capacity of Tank(s) or Impoundment(s) From Which Material Discharged:	N/A ()
Enforcement Actions:	N/A
Effectiveness of Monitoring Equipment:	N/A
Spill Detection:	N/A

*Reportable spill, as defined in 40 CFR Part 110, is a discharge of oil that violates applicable water quality standards or cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

FIGURE C-16 - CONTAINMENT AND DRAINAGE PLANNING

FACTORS
Available Volume of Containment
Refer to FIGURE C-5.
Route(s) of Drainage
Refer to FIGURE C-7.
Construction Materials Used in Drainage Troughs
Believed to be steel and cast pipe of unknown size
Type and Number of Valves Separators
(9) 4-inch gate valves
Sump Pump Capacities
Yard 1 - 150 pgm; Yard 3 - 150 gpm; Yard 5 - 156 gpm
Containment Capacity of Weirs and Booms
2 electric sump pumps of approx. 10 to 15 gpm. 1 electric sump pump in yard 5 approx. 100 gpm (manually controlled)
Other Clean Up Materials
Refer to SECTION 7.1.1 and APPENDIX B.

APPENDIX D
HAZARD EVALUATION AND RISK ANALYSIS

Last Revised: March 9, 2022

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D.1 Facility Hazard Evaluation

D.2 Vulnerability Analysis

D.2.1 Analysis of the Potential for a Spill

D.2.2 Site Risk Analysis

D.3 Inspection and Spill Detection

Figure D.3-1 - Response Equipment Inspection

D.4 Planning Distance Calculations

Figure D.4-1 - Planning Distance Calculations

D.5 Discharge Scenarios

D.5.1 Small and Medium Discharge Scenarios

D.5.2 Worst Case Discharge (WCD) Scenario Discussion

D.5.3 Description of Factors Affecting Response Efforts

D.6 Planning Volume Calculations

D.7 Spill Volume Calculations

D.7.1 USCG Portion of Facility

D.7.2 EPA Portion of the Facility

Figure D.7-1 - Worst Case Discharge (WCD) Calculations (in bbls)

D.7.3 DOT / PHMSA Portion of Pipeline/Facility

D.7.4 Oregon Spill Calculation

D.8 Product Characteristics and Hazards

Figure D.8-1 - Summary of Commodity Characteristics

D.1 FACILITY HAZARD EVALUATION

A list of potential spill sources is identified in **FIGURE C-5**. This figure describes type and volumes of secondary containment areas along with tank manufacturer dates. All liquid storage tanks are visually inspected on a monthly basis. A description of facility operations is included in **FIGURE 1-2**.

D.2 VULNERABILITY ANALYSIS

A vulnerability analysis was performed to address the potential effects of an oil spill within the planning distance of this facility. Refer to **SECTION 6.7** for a detailed list of vulnerabilities. The following features may be impacted by a spill:

Water Intakes	Schools	Medical Facilities	Residential Areas	Businesses	Wetlands or other Sensitive Environments	Fish and Wildlife	Lakes and Streams	Endangered Flora and Fauna	Recreational Areas	Transportation Routes (air, land, water)	Utilities	Other Applicable Areas
x			x		x	x	x	x	x	x	x	x

D.2.1 Analysis of the Potential for a Spill

The probability of a spill occurring at this facility is minimal for the following reasons:

- Tanks are constructed in accordance with applicable engineering standards.
- Tank age is reviewed as a potential factor (refer to **FIGURE C-5**).
- Truck loading facilities are equipped with concrete pads with a spill collection drain system which returns spills to the recovery system.
- All trucks are monitored during tank unloading procedures.
- Non-SCADA product transfers are monitored and only conducted when facilities are manned.
- SCADA product transfers are monitored via pipeline Control Center SCADA (if applicable).
- Facilities are inspected frequently for evidence of corrosion and leaks according to applicable API standards.
- Personnel are trained in procedures to prevent pollution.
- The horizontal range of a spill is dependent upon the topography and distance to the nearest water body described in more detail in **FIGURE D.4-1**.
- Natural disasters are not likely at these facilities; however, these facilities may experience flooding, tornadoes or a lightning strike.
- Company personnel prepare for natural disasters by monitoring weather reports and warnings and taking appropriate safety precautions.
- The potential for a natural disaster is acknowledged, as appropriate, during drills and exercises.

D.2.2 Site Risk Analysis

A detailed and comprehensive site risk analysis was performed for all transfer, production, storage, spill minimization, and containment systems at this Facility. The following risks were identified in addition to proposed measures that provide best achievable protection to address each spill risk.

SITE RISK ANALYSIS		
SYSTEM	**RISK / PROBLEM***	**PROPOSED PREVENTION / PROTECTION MEASURES**

*Evaluation of the construction, age, corrosion, inspection and maintenance, operation, and oil spill risk for each system. This takes into consideration tank and pipeline materials and design; drainage retention, treatment, and discharge systems; and spill detection / minimization systems, measures, and procedures.

Record of professional engineer certification is maintained on-site. See **APPENDIX C** for inspections, tests, and records. See **FIGURE C-5** for tank table information.

D.3 INSPECTION AND SPILL DETECTION

D.3 Inspection and Spill Detection
Inspection
In accordance with 40 CFR 112.7 (e)(8), each Facility includes written procedures and records of inspection. The inspection shall include tanks, secondary containment, and response equipment at the Facility. Facility self-inspection requires two steps: • Checklist of items to inspect. • Method of recording the actual inspection and its findings; records must be maintained for five years. Facility-specific procedures for transfer and secondary containment inspections are provided in **APPENDIX C**. Response equipment inspection information is provided in **SECTION 7.1.2**. **FIGURE D.3-1** may be used to record equipment inspection information.
Marine vessel loading/unloading is continuously visually monitored by qualified Person-In-Charge (PIC). The facility has a Dock Operation Manual with trained PIC and emergency shutdown switch (ESD) for pumps at the dock in the event of emergency. Each vessel is also equipped with ESD system which can be activated by Vessel PIC who remained in contact with the facility PIC. ESD systems are tested monthly to verify they operate according to design.
Detection
Detection of a discharge from the Company facility or pipeline may occur in a number of ways including: • Automated detection by the Supervisory Control and Data Acquisition (SCADA) system (if applicable). • Local alarm notification. • Visual detection by Company personnel. • Visual detection by the public. Criteria for suspension of operation while leak detection or other spill control system are inoperative is specify in NuStar Pipeline Operation and Maintenance Manual for abnormal operation and deviation from normal operating procedures. The operation system with product movement is suspended unless a safe alternative spill control system is identified and in place.
Automated detection
The pipelines are equipped with pressure and flow monitors, which may exercise local control or transmit data to Operations Control. These systems are set to alarm or shut down on preset deviations of pressure flow. In case of an alarm, Operations Control Center personnel will take the appropriate actions in accordance with operating procedures. A summary of the operating procedures is provided below. Trained personnel in Operations Control Center will monitor the SCADA system for the following parameters (if applicable): • Flow rates • Pressure • Valve positions The automated detection system depends on properly functioning field equipment, all field sensors and equipment are inspected.

D.3 INSPECTION AND SPILL DETECTION, CONTINUED

D.3 Inspection and Spill Detection, Continued
Automated detection, Continued
Facility loading rack is equipped with alarm and sculley system to prevent overfill during transfer. The system will shutoff the pump and prevent further loading whenever this alarm is triggered. Reliability of this system is checked quarterly during meter proofing
Pipeline surge control systems are operated and control by pipeline system operators. Surge control system for internal tank product movement are clay valves designed to divert product from the inbound source if there is a pressure in the system.
Operating procedures for the automated system
The facility pipeline is operated under Department of Transportation (DOT) guidance and Operations and Maintenance Manual. Records of these inspections are available on site.
SCADA System (if applicable)
Operations Control Center personnel monitor and control pipeline operations with the SCADA system in the Operations Control Center. The ultimate decision on leak detection lies with the Operations Control Center.
Communication Flexibility / Redundancy
The Company's SCADA system (if applicable) acquires data via a satellite network. Satellite communications allow large volumes of data to be transmitted both to and from all field locations very rapidly. Network configuration and transmission protocols provide the flexibility to establish guaranteed delivery transmissions as required. Where available, communication system redundancy provides accurate and reliable data to pipeline operators. Pipeline systems with a dial-up data acquisition system, known as Alternate Communications allow the Control Center Operator to access data from any location should the satellite network become unavailable.
Alarm Verification Procedures
Tank High and High High Level alarms, if applicable, are verified through the procedures outlined within Form 1105. The most recent version of this form can be found on the Company intranet. If one or more alarms fail, the appropriate management shall be notified and repairs will be initiated. High level alarms are tested monthly to verify they are operating according to design.
Parameter Alarms
A parameter alarm is a data value limit (high or low) which can be set by the Operations Control Center Operator to alert upset conditions regardless of whether the Operator is actively monitoring the data point in question. Operators are required to establish parameter alarm settings on mainline pressures and flow rates for all operating line segments. Depending on data acquisition rates, parameter alarms provide near instantaneous notification of potential upset conditions on all operating mainlines.
Trending
The SCADA system (if applicable) includes a trending facility which graphically displays pressures, temperature, and flow rate data for each mainline pump and oil receiving location on the system. This system can provide valuable insight into operations history and can help the operator proactively address potential upset conditions.
Tank Gauging with Parameter Alarms
Tank gauge data is available to the Operations Control Center for use by pipeline operators. Tanks in the Company system are gauged automatically by the SCADA computer or by local methods and the data is made available to the operator on demand. Parameter alarms (see above) are also available for tank levels, alerting the operator to potential discharge without requiring him to be actively monitoring a specific tank. During product transfer, Operations hand-gauge the tank with product movement and compare information to the automated gauging system to verify the accuracy of the data. Monthly, product tanks are hand-gauged and checked against automated monitoring system.

D.3 INSPECTION AND SPILL DETECTION, CONTINUED

D.3 Inspection and Spill Detection, Continued
Training
All operators are required to take training modules including emergency responses.
Visual detection by Company personnel
Aerial patrol flights will be made on a regular basis for pipelines subject to 49 CFR 194 and 195. The intent of the patrol is to observe the area directly over the pipeline right-of-way for leaks, exposed pipes, washes, missing markers and other unusual conditions. Construction on either side of the pipeline right-of-way is also monitored. Discharges to the land or surface waters may also be detected by Company personnel during regular operations and inspections. If a leak is detected, the appropriate actions are taken, including, but not limited to: • Notifications as per **SECTION 3**. • A preliminary assessment of the incident area. • If appropriate, initiate initial response actions per **SECTION 2**. **FIGURE 2.1-1** provides a checklist for initial response actions.
Visual detection by the public
Right-of-way marker signs are installed and maintained at road crossing and other noticeable points and provide an Operations Control 24-hour number for reporting emergency situations. Also, Facility signs are installed and maintained on perimeter fencing. The Company also participates in the "call before you dig" or "One Call" utility notification services which can be contacted to report a leak and determine the owner/operator of the pipeline. If the notification is made to a local office or pump station, the Company representative receiving the call generally will implement the following actions: • Notify the Operations Control Center and regional/designated office (as applicable). • Dispatch Company field personnel to the site to confirm discharge and conduct preliminary assessment. • Notify their immediate area supervisor and provide assessment results.
Signage are placed as markers at fence lines, property lines, ROW boundaries and in open areas where party exerting control over the surface use of ROW will permit such installation. Markers may consist of pipeline warning signs or posts installed to indicate the presence of buried pipeline. Procedures for pipeline markers installation is specified in NuStar Energy Pipeline O&M Manual.

FIGURE D.3-1 - RESPONSE EQUIPMENT INSPECTION

(Other versions of this form may be used.)

ITEM	QUANTITY	LOCATION	TIME TO ACCESS/RESPOND	CONDITION	DATE USED/TESTED	SHELF LIFE	INSPECTION DATE

Inspector's Signature

D.4 PLANNING DISTANCE CALCULATIONS

To evaluate the potential risk to sensitive resources in the area, should a spill occur, a planning distance was calculated based on the following characteristics of this Facility and vicinity according to 40 CFR 112, Attachment C-III. Factors utilized include distance to the nearest body of moving water/storm sewer/drainage ditch or swale, geology, and topography of the area.

FIGURE D.4-1 provides the planning distance calculation worksheets for this Facility.

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS

Intermediate Calculations

∝ = elevation (in feet) = [stream elevation @ facility] - [stream elevation @ receptor (or 20 mile point)]

ß = horizontal distance from facility to receptor (or 20 mile point) in miles

s = average steam slope = ∝ / ß / 5280

r = hydraulic radius (in feet) = average mid channel depth x 0.667

n = Manning's roughness coefficient from Table B

To calculate stream velocity (in ft./sec.), use: $v = 1.5/n \times r^{2/3} \times s^{1/2}$

Calculation of **PLANNING DISTANCE**

d = calculated planning distance (miles)

v = Chezy-Manning based stream velocity (ft./Sec.)

t = spill response time interval (from Table A)

c = 0.68 (sec-mile/hr-ft conversion factor)

d = v x t x c = planning distance equation

Table A	
Substantial Harm Planning Time Port Areas as Identified in 40 CFR § 112	
Boston, MA	15
New York, NY	15
Delaware Bay and River to Philadelphia	15
St. Croix, VI	15
Pascagoula, MS	15
Mississippi River from Southwest Pass, LA to Baton Rouge, LA	15
Louisiana Offshore Oil Port (LOOP)	15
Lake Charles, LA	15
Sabine-Natchez River, TX	16
Galveston Bay and Houston Ship Channel	16
Corpus Christi, TX	16
Los Angeles/Long Beach Harbor, CA	16
San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA	16
Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound	16
Prince William Sound, AK	16
Others are specified by RA for EPA Region	16
Allow other lakes, rivers canals inland and near shore areas	27

Table B	
Manning's Roughness Coefficient for Various Natural Stream Types (n)	
Minor Streams (Top width < 100)	
Clean:	
Straight	.03
Winding	.04
Sluggish (woody, deep pools):	
No trees/brush	.06
Trees and/or brush	.10
Major Streams (Top width > 100)	
Regular section:	
No boulders/brush	.036
Irregular section:	
Brush	.06

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS

Site Investigation

The following information is utilized to calculate the planning distance for each facility.

From USGS Quad/Topo Sheets

- Delineate watershed and downgradient receptor streams for runoff/release.
- Determine whether navigable water is within 0.5 miles of the facility (or would be in worst case discharge scenario).

From Facility

- Identify alternate drainage pathways to navigable waters; namely storm drainage system/piping.
- Establish list of soil or other factors effecting transport of oil over land.

From maps, local/state authorities or investigation

- Identify fish/wildlife sensitivities and habitats in downgradient areas along with public drinking water intake locations.
- Determine stream pool elevations at facility and at receptor points or at 20 miles downstream (maximum) for more distant receptors.
- Characterize stream properties for accurate determination of roughness coefficient (n) and average mid-channel depth or hydraulic radius (r).

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS

The total planning distance equals d.

	Portland Terminal - Williamette River
First receptor	Use 20 miles if no receptor identified
First receptor location (miles)	20
∝ (feet)	0.18
ß (miles)	20
s (feet/mile)	1.71E-06
Avg. mid-channel depth (feet)	30
r (feet)	20
n	0.035
v (feet/second)	0.41
t (hours)	27
c (seconds per mile/hours per foot)	0.68
d (total planning distance)	8 miles

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS

Click to view/print Portland Planning Distance Calculations

Portland Planning Distance Calculations

Calculation Factors		Unit	Notes
Stream elevation @ facility =	3.4	ft	Gage datum for above sea level. Use https://www.ngs.noaa.gov/cgi-bin/VERTCON/vert_con.prl for longtitude and latitude for determination
Stream elevation @ receptor (or 20 mile point) =	3.3	ft	Use google map to determine the 20 mile mark's longtitude and latitude. Follow that by using NOAA to determine gage datum based on location.
α = Elevation in feet=	0.18	ft	
β = Horizonal Distance from Facility to Receptor (ft) =	20	miles	Use 20 miles if no receptor identified (40CFR 112 Appendix C)
s = Average Stream Slope = α / β / 5280 =	1.71E-06		
Average mid channel depth =	30	ft	
r = hydraulic radius (in feet) = Average mid channel depth x 0.667 =	20.01		
n = Manning roughness factor from Table B =	0.035		40CFR 112 Appendix C Table 1. Table in our FRP has the incorrect factor of 0.036
v (ft/sec) = river velocity = (1.5/n)(r^2/3)(s^(1/2))	**0.41**	ft/sec	
t (hr) = Spill Response Time Interval =	**27**	hr	40 cfr 112 Appendix C Table 3 for substantial harm planning time. Only Selby and Wilmington are within the Higher Volume Port Area designation with t = 15 hours.
c (conversion factor) =	**0.68**		

Planning Distance = d = v x t x c = 8 miles

Questions concerning the VERTCON process may be mailed to NGS

Latitude: 45 35.348

Longitude: 122 46.371

NGVD 29 height:

Datum shift(NAVD 88 minus NGVD 29): 1.046 meter

Questions concerning the VERTCON process may be mailed to NGS

Latitude: 45 48.4536

Longitude: 122 48.5907

NGVD 29 height:

Datum shift(NAVD 88 minus NGVD 29): 0.991 meter

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS

If Tidally Influenced

- Planning distance calculations are based on the following factors and guidelines in accordance with 40 CFR Part 112 Attachment C-III, 4.2:
- The horizontal range of a potential oil spill is influenced by the wind direction and tidal stage; however, it is expected to spread quickly.
- Tidally influenced waters.
- Persistent and non-persistent product.
- Resulting planning distance is 15 miles persistent oils or 5 miles for non-persistent oils from each Facility down current during ebb tide and to the point of maximum tidal influence or 15 miles persistent oils or 5 miles for non-persistent oils, whichever is less, during flood tide.

D.5 DISCHARGE SCENARIOS

The equipment and personnel to respond to a spill are available from several sources and are provided with the equipment and contractors in **FIGURE 7.1-1** and **APPENDIX B.1.1**. The following sections are discussions of these scenarios.

D.5.1 Small and Medium Discharge Scenarios

- The purpose of this section is to identify the sources and sizes of small and medium discharges as defined by OPA 90 regulations
- Potential spill scenarios may include tank overflow, valve failure, tank failure, pipe failure, hose failure, or pump seal failure; these spills would likely be in contained areas and would be unlikely to travel offsite

- The Company would respond to these types of incidents in the same manner as a worst case discharge, but at a level appropriate to the incident size; differences in response are described in the worst case scenario discussion described in this Appendix. The Companies' response in such an event would in no way obviate the liability of any other responsible parties.

- Oil Storage capacity for a small/medium discharge would be available either on-site or via contracted resources listed in **FIGURE 7.1-1**.

- Resources are identified in **SECTION 3**, **SECTION 7**, and **APPENDIX B**.
- All resources shall be capable of arriving at the Facility within the applicable response tier requirements (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours)

The following table lists various facility operations and corresponding components which might be the source of a small, medium, and worst case discharge:

FACILITY OPERATIONS AND COMPONENTS	SMALL DISCHARGE (up to 2,100 gallons)	MEDIUM DISCHARGE (2,100 to 36,000 gallons)	WORST CASE DISCHARGE (volume largest tank)
Oil transfer operations	Hose failure	Hose failure	Not applicable
Facility maintenance operations	Leak from periodic maintenance, line not completely drained when opened	Seal failure Overfill	Not applicable
Facility piping	Flange, gasket, threaded connection	Seal failure Overfill	Not applicable
Pumps and sumps	Seal failure Overfill	Seal failure Overfill	Not applicable
Oil storage tanks	Overfill	Overfill	Catastrophic failure of largest tank
Age and condition of facility and components	Flange, gasket, threaded connector	Pipeline failure Seal failure	Catastrophic failure of largest tank

D.5.1 Small Discharge Scenario

The following table describes the Facility-specific small discharge scenario.

SMALL DISCHARGE SCENARIO
During barge loading operation, loading diesel at approximately 1,800 barrels/hr, a loading hose fails and releases nearly the full flow of the stream into Willamette River where the vessel is moored along P2 dock. The failure is detected almost immediately. The dock operator shuts down the operation and alerts the supervisor and the vessel. By the time the pumps are shut down and the line secured, an estimated 50 barrels of diesel has been released. The PIC and the vessel crew take immediate steps to secure the loading operation. The stop valves at each end of the transfer hose are secured. The transfer hose is drained of any remaining oil to the header containment basin to prevent further oil discharge to the water. After securing the hose and valves, the PIC deploys sorbent pads on the dock and in the water in the vicinity of the vessel. The sorbent pads are located in the dock shed.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.1 Small Discharge Response Resource

The following table describes the Facility-specific small discharge response resource.

SMALL DISCHARGE RESPONSE RESOURCE
HOUR 0 to 1 – Following the source is secured; the subsequent steps are as follow: 1)PIC reports spill to the Terminal Manager(TM)/QI by radio. He reports the type of oil that has been spilled, the estimated amount, and the actions that have been follow to this point. 2)TM assumes the role of Incident Commander (IC) and notifies National Response Center, OSRO (CRC), DEQ Spill Prevention and Management Division, Region 10 EPA and WR General Manager and HSE Director. Notification follows the procedures as outlined in Section 3 of the emergency response plan. 3)IC instructs terminal operators to launch the terminal skiff and deploy additional containment boom around the barge. After determining the PEL readings for LEL, benzene and H2S are within safe limits, the operator deployed an additional 1000 ft of containment boom around the vessel and dock, containing most of the spill oil. 4)OSRO has equipment and trained personnel pre-staged and available within 1 hour for mobilization. 5)OSRO initiated its own call out procedures. Equipment and personnel enroute to spill site within 1 hour of notification. The response continues based on experience with the product and review of the SDS product information. The IC also arranges for the Fire Department to determine the volatility and toxicity concentration with regard to permissible exposure limits (PEL). IC requests the tank barge to check its tanks to determine a more accurate assessment on spill volume. HOUR 1-2 The tank barge advises that based on pre and post spill tank soundings, the estimated spill volume is revised to 40 barrel of diesel. IC discusses the situation with OSRO and decides to respond with more equipment and personnel. An oil recovery vessel with crew of two and a vacuum truck are dispatched from CRC yard. In addition to the skimmer and vac truck crews, OSRO also dispatches an additional 4 HAZWOPER trained personnel to assist with clean operation. Fast response vessel with additional containment booms and fully equipped response van arrived on scene within 1.5 hr from notification. Prompt deployment of additional booms is critical to minimize the impact of the spill and facilitate cleanup operations. OSRO deployed additional boom around the vessel. HOUR 2-3 The local fire department requested to conduct their own air/vapor analysis in the spill area for volatility levels. They found no abnormal readings, but will stand by to monitor cleanup operations. Consequently, the use of air purifying respirators will not be mandatory for cleanup workers. A command post is established in Terminal Operator's Office next to the control room. A command post is established with communication using the portable VHF radios, telephones and portable cellular telephones. USCG COP personnel arrive on scene from Marine Safety office and begin investigating the incident and monitor cleanup operations. The IC and USCG personnel form a Unified Command, and ICS team established by terminal and CRC trained personnel and supported by USCG personnel. Following initial briefing, UC discussed options to expedite cleanup and minimize environmental impact. All transfer operations remain secured pending USCG approval to continue. The USCG establishes a precautionary zone in the vicinity of the spill and broadcasted to local notice to mariners. HOUR 3-4 Oregon DEQ arrived on scene to manage the Environmental Unit under Planning Section and to investigate and monitor the situation. Given the current situation, DEQ do not recommend mobilizing additional resources to implement the response strategies outlined in Geographic Response Plan. CRC vac truck and 2 person HAZWOPER crew arrived on scene and begin recovery operations alongside the dock inside the containment boom. Temporary storage of the recovery is available through CRC's resources. CRC skimmer made several passes at small ribbons of sheet. It is nest employed inside the boom where is capable to work with spills trapped under the dock and piers. Skimmer could collect any escaping sheen from splash over or entrainment. The deployed sorbent boom can also minimize oil from escaping containment.

D.5.1 Small Discharge Response Resource, Continued

SMALL DISCHARGE RESPONSE RESOURCE
HOUR 4-24 As directed by UC, the deck and the hull of the vessel, the dock and the pilings underneath the dock will be cleaned up with sorbents, rags and biodegradable degreaser/soap. Flushing or rinsing with water will be avoided to preclude further contamination of the waterway. Waste storage and handling will follow the Waste Disposal Plan as approved by UC. Day 2 and beyond… Containment, recovery and cleanup operations continue as before. Response operations will continue until cleanup is deemed satisfactory by USCG and DEQ representatives. During the actual spill event, response resources may vary depending on the site investigation. Availability of agencies and equipment may also vary when it is beyond the control of the facility.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.1 Medium Discharge Scenario

The following table describes the Facility-specific medium discharge scenario.

MEDIUM DISCHARGE SCENARIO
At 18:00, facility began transferring diesel from Tank 2705 to Tank 2706 at Containment #4. Operator checked on the TIS inventory recording and the site around the tanks at a minimum every two hours. During the 21:50 site check, Operator (I) noticed the inventory was inconsistent from the transfer. At 21:51, Operator (I) shut off the transfer pump remotely at the control room. Operator (I) reported the situation to the other operator on duty before going out to the tank farm for further evaluation and asked him to contact Terminal Manager (TM). Operator (II) on duty called TM to report the initial situation before going to the tank farm to assist in the evaluation of the situation. The last site and inventory check occurred at 19:55. Operator (I) visually saw from a distance that the product was on the ground inside Containment #4 from a PRV connected to the transfer pipeline. The average transfer rate of this transfer line is 36 gallons per minute. Initial estimated maximum product lost from the transfer is 4,104 gallons. Operator (I) reported the initial maximum lost to QI/TM. Product was contained in Containment #4.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.1 Medium Discharge Response Resource

The following table describes the Facility-specific medium discharge response resource.

MEDIUM DISCHARGE RESPONSE RESOURCE
HOUR 0 to 1 – Following the source is secured; the subsequent steps are as follow: 1)Operation contacted TM/QI via radio. Notification procedure as described in Section 2 and 3 of the Facility Response Plan is activated. TM called NRC, OSRO, Oregon DEQ, EPA Region 10 and WR General Manager and WR HSE Director. 2)OSRO (Clean Rivers Coop) initiated its own call out procedures. Equipment and personnel en-route to Portland spill site within 1 hour of notification. 3)TM assumes the role of Incident Commander. 4)TM requested Operator on site to verify the volume of product lost based on tanks inventory. Operator checked and reported that there was 2,200 gallons diesel lost from the transfer. The response continues based on experience with the product and review of the SDS product information. The IC arranges for the use of onsite LEL meters for evaluation to determine vapor volatility and toxicity concentrations of the area. Personnel walk around the perimeter of the spill beginning from up wind of the site and found the area is safe to access. Operators secure the area and noted no additional diesel is flowing out of the transfer pipeline PRV. Close the block valves nearest to each side of the PRV. HOUR 1 to 2 – TM requests Operator to verify storm water drainage area from Containment #4 is still in the standby closed position. Additional drain plug was added inside the Containment at the storm water drain to prevent spillage from flowing into the storm drain. IC discusses the situation with OSRO and decides to respond with more equipment and personnel. An oil recovery vac truck with crew of two is dispatched from CRC yard to the facility. Roll off beams and empty storage drums were ordered for material recovered from the cleanup. IC and OSRO evaluated the staging of the equipment coming into the site and established resources needed for the response including additional personnel. Containment areas are located within gated and restrictive area of the terminal. Additional measures are added to prevent non-essential personnel from entering to the response area. HOUR 2 to 6 – Local fire department arrived on scene and requested to conduct their own air/vapor analysis in the spill area for volatility levels. They found no abnormal readings, but will stand by to monitor cleanup operations. Consequently, the use of air purifying respirators will not be mandatory for cleanup workers. A command post is established in Terminal Operator's Office next to the control room. A command post is established with communication using the portable VHF radios, telephones and portable cellular telephones. CRC vac truck and 2 person HAZWOPER crew arrived on scene. After reviewing safety access and response, the crew begins the recovery operations. Vac truck is staged alongside the concrete containment wall next to Containment area 4. HAZWOPER crew was directed by OSRO supervisor to use the appropriate PPE and LEL monitor when handling material inside the containment area. Temporary storage of the recovery is available through CRC's resources. Additional terminal personnel arrived on scene to fill the IC Management system posts. HOUR 6 to 12 – Oregon DEQ personnel arrived on scene. Spill Response Prevention Unit manager from DEQ and Captain of local fire department joint the IC and formed the Unified Command as established in the FRP. Incident briefing to all response personnel was provided to UC and IC management system personnel. Roll off storage bins arrived on scene and moved to staging area. Additional two OSRO HAZWOPER crew arrived to assist in recovery and clean up. OSRO reported @10:00 on Day 1 that approximately 1800 gallons free liquid inside containment is recovered and stored in vac truck. Additional Oregon DEQ arrived on scene to manage the Environmental Unit under Planning Section and to investigate and monitor the situation. Given the current situation, DEQ do not recommend mobilizing additional resources to implement the response strategies outlined in Geographic Response Plan.

D.5.1 Medium Discharge Response Resource, Continued

MEDIUM DISCHARGE RESPONSE RESOURCE
HOUR 12 to 24 – OSRO reported the free liquid diesel in containment was removed with an estimated final volume of 2,100 gallons recovered. Contaminated soil/dirt on the ground is being removed on site and stored in roll off bins. Material recovered and solid waste (including soil and soiled PPE/rags) will be separated, stored and handled in accordance to NuStar waste handling policy or approved Disposal Plan from UC. Day 2 and beyond – Clean up will continue until UC is satisfied and deem the cleanup is completed. During the actual spill event, response resources may vary depending on the site investigation. Availability of agencies and equipment may also vary when it is beyond the control of the facility.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.2 Worst Case Discharge (WCD) Scenario Discussion

APPENDIX D.7 provides worst case discharge calculations. Discussion of this scenario is as follows:

Upon discovery of a spill, the following procedures would be followed:

1. The First Responder would notify Supervisory Personnel and notifications would be initiated in accordance with **FIGURE 2.1-1**.

2. The Facility Manager would assume the role of Incident Commander until relieved and would initiate response actions and notifications in accordance with **SECTION 2**. If this were a small spill, the local/company personnel may handle all aspects of the response. Among those actions would be to:

    - Conduct safety assessment in accordance with **FIGURE 2.1-1** and evacuate personnel as needed in accordance with **SECTION 2.2**.
    - Direct Facility responders to shut down ignition sources.
    - Direct Facility personnel to position resources in accordance with **SECTION 6.9**.
    - Complete spill report form in accordance with **FIGURE 3.1-2**.
    - Ensure regulatory agencies are notified (**FIGURE 3.1-4**).

3. If this were a small or medium spill, the Qualified Individual/Incident Commander may elect for the First Responder to remain the Incident Commander or to activate selected portions of the Incident Management Team. However, for a large spill, the Qualified Individual would assume the role of Incident Commander and would activate the entire Emergency Management Team in accordance with activation procedures described in **SECTION 4.2**.

4. The Incident Commander would then initiate spill assessment procedures including surveillance operations, trajectory calculations, and spill volume estimating in accordance with **SECTION 2.1.3**. The QI would implement the terminal's safety and health plan developed under 29 CFR 1910.120 and designed to identify, evaluate, and control safety and health hazards during emergency response operations.

5. The Incident Commander would then utilize checklists in **SECTION 4.6** as a reminder of ICS position responsibilities. The primary focus would be to establish incident priorities and objectives and to brief staff accordingly.

6. The Incident Management Team would develop the following plans, as appropriate (some of these plans may not be required during a small or medium spill):

    - Site Safety and Health (**SECTION 5.4**)
    - Site Security (**SECTION 5.7**)
    - Incident Action (**SECTION 5.2.6**)
    - Decontamination (**SECTION 5.5**)
    - Disposal (**SECTION 5.6**)
    - Demobilization (**SECTION 5.8**)

7. The response would continue until an appropriate level of cleanup is obtained.

D.5.2 Worst Case Discharge Scenario

The following table describes the Facility-specific worst case discharge scenario.

WORST CASE DISCHARGE SCENARIO
Aweld failure occurs in the shell at the bottom chime of Tank 100026, which has been filled to capacity (100,000 barrels). The entire tank contents are released into the secondary containment. The secondary containment wall fails and the entire tank contents escapes and eventually enters the river.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.2 Worst Case Discharge Response Resource

The following table describes the Facility-specific worst case discharge response resource.

WORST CASE DISCHARGE RESPONSE RESOURCE
The Facility will respond to a Worst Case Discharge (WCD) initially with a similar response as identified for a Small/Average Most Probable or Medium/Maximum Most Probable Discharge. Additional OSRO(s) will be activated as the situation demands. The response resources will be capable of arriving within the required response tiers and will include: Oil recovery devices with an effective daily recovery capacity equal to the lesser of 50% of the WCD or the response caps will be secured from the OSRO(s) and other Company resources. Any amount in excess of the required caps will be contracted for and responded to as part of the same response effort. Temporary storage capacity equal to twice the daily recovery capacity will be secured from OSRO(s), other ST Services resources, or made available within the Facility's storage facilities. At least 20% of the on-water response equipment secured from the OSRO(s) and other ST Services resources will be capable of operating in water of 6 feet or less depth. Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive environments and socio-economic sensitivities will be secured from the OSRO(s) and other ST Services resources. Resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the shoreline will be secured from the OSRO(s) and other ST Services resources.Overall response operations will be conducted under the Incident Command System with adequate Facility and Contract Response personnel to continue operations for a minimum of seven (7) days. In the unlikely event of a spill leaving the property, it would probably enter navigable water at the Williamette River.

D.5.2 Worst Case Discharge Response Resource, Continued

WORST CASE DISCHARGE RESPONSE RESOURCE

HOUR 0-4

The initial response to this spill would be identical to that for the spills described above. Additional activity that would occur during this initial period would include the following:

Immediate press awareness and involvement would occur, being alerted by the immediate communications between Shore and the agencies. This would require the IC or a qualified designate to be responsive to press inquiries until public relations assistance from Shore arrived on scene.

Site security would be critical. Exclusion zones would have to be set up and maintained by local police to prevent unauthorized access to the response area.

The large volume of product along the shore could result in some potential impact south of the facility in spite of the wind magnitude and direction. This would require additional Foss resources at the spill site.

The large volume of product moving down river would require maximum use of Foss equipment from Portland and at all pre-staged locations downstream from the facility.

Shore would contact other local response contractors to be prepared to assist as additional assistance is required.

HOUR 4-16

Unified Command is fully functioning, with Shore, USCG. DEQ, and DOE participation. The Unified Command agrees that the first priority of containment and control has been accomplished. They now proceed to implement the applicable response strategies outlined in the Lower Columbia River Geographic Response Plan.

Because of many factors, they agree that the use of chemical dispersants is not a viable alternative. In-situ burning, although felt not to be highly successful, is further evaluated and work is started on the approval process. (It was later concluded that in the areas where burning might have been approved, the spill concentrations were inadequate to sustain effective burn results).

Additional resources are brought into action by Foss as well as by CRC. The Planning staff confirms to the Unified Command that the total recovery capacity of resources m place exceeds the Recovery Capacity requirements as identified in the response calculations on page G-9. Shore has also made available at the Terminal 25,000 barrels of storage, with another 40,000 barrels that can be freed up for use on short notice.

The Scientific Support, Coordinator from NOAA arrives to assist in spill trajectory determinations. Aerial surveillance (completed at hour 11, just before dark) confirms that the leading edge of the slick is in the Columbia opposite Scapoose, with some shoreline impact on the Washington side near Campbell Lake and some close to shore on Sauvie Island at Willow Bar.

Foss is in the process of placing diversion boom from St. Helens to prevent the slick from entering the Batchelor Island Slough. It can be in place before dark and maintained overnight barring extreme adverse weather.

Willow Grove Park at Longview is selected as a major staging area to facilitate response in the lower Columbia area. Projections place the leading edge to be beyond Rainier/Longview by daylight of day 2.

Diversion/exclusion booming to minimize shoreline impacts is being readied for deployment at first light of day 2 in accordance with the GRP.

Baker Tanks are mobilized to the Longview staging area for additional temporary storage if needed. End dumps are also staged at several locations to receive any solid waste-
A solid waste disposal plan is readied for approval by Unified Command.

At dusk all on-water operations, except for boom tending, are suspended. Shoreline operations arc limited to skimming inside the containment boom, where terminal lights provide adequate working light for safe night operations. Security is maintained.

D.5.2 Worst Case Discharge Response Resource, Continued

WORST CASE DISCHARGE RESPONSE RESOURCE
DAY 2 A Unified Command meeting if conducted at first light, with reports from key personnel on the response status. A statement is released to the media, prepared by Shore and approved by the FOSC and SOSCs. Tracking of spill migration by helicopter continues. NOAA projections indicate the loading edge of the slick would reach the Columbia bar by hour 60 (the afternoon of day 3). Ocean beaches would begin to be impacted by hour 72 (the morning of day 4) Oregon beaches south to Seaside could be impacted and Washington Beaches to north of Ilwaco could be impacted depending on the set of ocean tides. Current flow in the Columbia and ocean tidal action will cause the slick to impact beaches and inlets on both sides of the Columbia near the mouth. Unified Command determines that the most effective activity throughout the Lower Columbia beyond Svensen will be beach clean-up with hand crews. Several crews, consisting of a total of 220 Hazwoper trained personnel arc organized to begin these operations by day 3. Beach clean-up activity will lie based on the Shoreline Countermeasure Matrix, developed by NOAA, and made a part of the Shore FRP. Bird and marine mammal rescue operations are initiated jointly by the Oregon Department of Fish and Wildlife and the Washington Department of Wildlife. Rescue stations are established where birds are collected for cleaning and then transported to the Central Bird Rescue Facility under the direction of the two agencies. Diversion, containment, and recovery operations continue on water where skimming arid sweeps with absorbent booms can be effective. Twelve-hour shifts are established with only boom tending operations during the night shift. Response operations will continue until cleanup is judged satisfactory by USCG, DEQ and DOE. DAY 3 and Beyond Briefing meetings involving the Unified Command are held daily to update ongoing response plans and evaluate cleanup options. Aerial surveillance continues as needed to direct on-water and shoreline crews. Cleanup activities continue until all product which can reasonably be recovered is recovered, Depending on environmental conditions, beach cleanup would last for another 2 to 3 weeks. As recovery and onshore cleanup is completed, recovered oil and oily waste is transported to recycling or energy recovery facilities or an approved waste disposal site. It is estimated that 12,000 barrels of product was recovered throughout the on-water recovery operations, most from within the initial containment boom near the dock. An estimated 4,000 barrels of product was recovered during shoreline clean-up efforts and was handled as a part of the solid waste disposal process. The balance of product was lost through evaporation and dissipation.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-6**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.

D.5.3 Description of Factors Affecting Response Efforts

There are many factors which may affect the ability to respond to an incident. These factors are described in the following table:

FACTORS	CONSIDERATIONS AFFECTING RESPONSE EFFORTS
Size of spill	• Location of spill in relation to identified sensitivities and/or sensitive areas. • Spread and spill movement.
Proximity to downgradient water intakes	• Refer to **SECTION 6.7** for maps showing proximity to down gradient water intakes.
Proximity to fish, wildlife, and sensitive environments	• A release could impact fish, wildlife and sensitive environments as described in **SECTION 6.4** and **SECTION 6.5**.
Likelihood that discharge will travel offsite	• A small spill is unlikely to travel off-site. • A medium spill has the potential to travel off-site via adjacent waterways. • A worst case discharge has the greatest potential to travel off-site if secondary containment is breached.
Location of material spilled	• See facility information and drainage located in **FIGURE 1-2** and **FIGURE C-7**. Facility tankage, piping, and transfer areas are displayed on drawings provided in **FIGURE C-7** and **FIGURE C-9**.
Material discharged	• Typically Biodiesel, Diesel, Ethanol , Gasoline, HiTec 4142 Fuel Additive (Lubricity), HiTec 6590 Gasoline Fuel Additive, Renewable Diesel, Unisol(R) Liquid Red BK-50 • Product is considered non-persistent but not volatile.
Weather or aquatic conditions	• The areas have the potential to be affected by tornadoes, flooding, hurricanes, and lightning strikes.
Available remediation equipment	• The Company may have response equipment available. Refer to **SECTION 7.1.1** for applicability. Resources are available through oil spill response contractors in quantities sufficient to meet applicable planning standards.
Probability of a chain reaction of failures	• Potential for a chain reaction or failure is remotely possible but not anticipated; secondary containment, response contractors and trained personnel minimize the potential of such events.
Direction of spill pathway	• Refer to sensitivity maps in the **SECTION 6.10**. • Wind direction and speed combined with currents, will determine spill trajectory.

D.6 PLANNING VOLUME CALCULATIONS

Once the worst case discharge volume has been calculated, response resources must be identified to meet the requirements of 40 CFR 112.20(h). Calculations to determine sufficient amount of response equipment necessary to respond to a worst case discharge is described below. A demonstration of the planning volume calculations is provided below.

D.7 SPILL VOLUME CALCULATIONS

D.7.1 USCG Portion of Facility

The Worst Case Discharge was formulated assuming a release from the Marine Transportation Related portion of the Facility, as directed by 33 CFR 154.1029.

The Worst Case Discharge is based on a catastrophic failure of all piping carrying oil between the marine transfer manifold(s) and the non-transportation related portion(s) of the Facility. For the Portland Terminal Terminal, this volume is calculated as noted below. Actual Worst Case Discharge volumes for all facilities are provided in **FIGURE 2-1**. Oil spill response equipment available to respond to this spill is included in **SECTION 2.2**, and **FIGURE 3-3**.

- **Worst Case Discharge (WCD)** = [(maximum time to discover + maximum time to shutdown flow) x maximum flow rate] + piping capacity = [(**1.01667** hours) x **8000** bbls/hr] + **22** barrel = **8155.36 barrels**.

- **Average Most Probable Discharge**

  The Average Most Probable Discharge (AMPD) is defined by 33 CFR 154 as the lesser of 50 barrels or 1% of the Worst Case Discharge. One percent of the Worst Case Discharge is approximately **81.55** barrels, therefore, the average most probable discharge is **50 barrels**.

- **Maximum Most Probable Discharge**

  The Maximum Most Probable Discharge (MMPD) is defined by 33 CFR 154 as the discharge of the lesser of 1,200 barrels or 10% of the volume of the Worst Case Discharge. Ten percent of the Worst Case Discharge is approximately **815.54** barrels, therefore, the maximum most probable discharge is **815.54 barrels**.

D.7.2 EPA Portion of the Facility

The WCD for the EPA portion of the facility, as defined in 40 CFR 112, Appendix D, Part A, is calculated as:

- For multiple tank facilities with adequate secondary containment, the WCD is calculated as the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater.

TYPE	DESCRIPTION	PRODUCT	WCD VOLUME (BBLs)
Multiple tanks w ith secondary containment	Catastrophic failure of the largest tank #100026 or 100027	Gasoline/Diesel	100,000

Because the discharge for the EPA portion of the facility is greater than the USCG definition for a worst case discharge, response resources are planned for the greater of the two volumes.

FIGURE D.7-1 - WORST CASE DISCHARGE (WCD) CALCULATIONS (IN BBLS)

USCG			EPA
WCD	Avg. Most Probable	Max. Most Probable	
8155.36	50	815.54	100000

EPA Planning Volume Data

STEP	PARAMETER	Portland Terminal
(A)	WCD (bbls)	100,000
(B)	Oil group	1 - Non-persistent oils
(C)	*Geographic area	Nearshore/Inland
(D1)	Percent lost to natural dissipation	80
(D2)	Percent recovered floating oil	20
(D3)	Percent oil onshore	10
(E1)	On water recovery (bbls)	20,000
(E2)	Shoreline recovery (bbls)	10,000
(F)	Emulsification Factor	1.0
(G)	On water recovery resource mobilization factor	
(G1)	Tier I	0.15
(G2)	Tier II	0.25
(G3)	Tier III	0.40
Part II	On water recovery capacity (bbls/day)	
	Tier I	3,000
	Tier II	5,000
	Tier III	8,000
Part III	Shoreline cleanup volume (bbls/day)	10,000
Part IV	On water response capacity by operating area (bbls/day)	
(J1)	Tier I	12,500
(J2)	Tier II	25,000
(J3)	Tier III	50,000
Part V	On water amount needed to be identified, but not contracted for in advance	
	Tier I	0
	Tier II	0
	Tier III	0

* R = Rivers and canals
N = Nearshore/Inland

EPA Planning Volume Data, Continued

STEP	PARAMETER	Portland Terminal
(A)	WCD (bbls)	100,000
(B)	Oil group	2- Light crudes
(C)	*Geographic area	Nearshore/Inland
(D1)	Percent lost to natural dissipation	50
(D2)	Percent recovered floating oil	50
(D3)	Percent oil onshore	30
(E1)	On water recovery (bbls)	50,000
(E2)	Shoreline recovery (bbls)	30,000
(F)	Emulsification Factor	1.8
(G)	On water recovery resource mobilization factor	
(G1)	Tier I	0.15
(G2)	Tier II	0.25
(G3)	Tier III	0.40
Part II	On water recovery capacity (bbls/day)	
	Tier I	13,500
	Tier II	22,500
	Tier III	36,000
Part III	Shoreline cleanup volume (bbls/day)	54,000
Part IV	On water response capacity by operating area (bbls/day)	
(J1)	Tier I	12,500
(J2)	Tier II	25,000
(J3)	Tier III	50,000
Part V	On water amount needed to be identified, but not contracted for in advance	
	Tier I	1,000
	Tier II	0
	Tier III	0

* R = Rivers and canals
N = Nearshore/Inland

D.7.3 DOT / PHMSA Portion of Pipeline/Facility

The worst case discharge (WCD) for the DOT portion of the pipeline and facilities, as defined in 49 CFR 194.105(b), as the largest volume of the following:

1. The pipeline's maximum shut-down response time in hours (based on historic discharge data or in the absence of such data, the operators best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest drainage volume after shutdown of the line section(s) in the response zone expressed in barrels; or
2. The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels (cubic meters), based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or

3. If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.

Under PHMSA's current policy, operators are allowed to reduce the worst case discharge volume derived from 49 CFR 194.105(b)(3) by no more than 75% if an operator is taking certain spill prevention measures for their breakout tanks and presents supporting information in the response plan. An operator can reduce the worst case discharge volume based on breakout tanks in the response zones as follows:

SPILL PREVENTION MEASURES	PERCENT REDUCTION ALLOWED
Secondary containment capacity greater than 100% capacity of tank and designed according to NFPA30	50%
Tank built, rebuilt, and repaired according to API Std 620/650/653	10%
Automatic high-level alarms/shutdowns designed according to NFPA/API RP 2350	5%
Testing/cathodic protection designed according to API Std 650/651/653	5%
Tertiary containment/drainage/treatment per NFPA30	5%*
Maximum allowable credit or reduction	75%

* Note: The facilities do not have tertiary containment.

The worst case discharge for each response zone was based on the largest volume of the three criteria given above.

The line sections with the highest throughput and largest drainage volume between block valves on pump stations were chosen to calculate the pipeline worst case discharge. Although the entire discharge volume of each line was used for the worst case discharge, in an actual spill event, it would take days to drain the line completely. The line would be sealed early in the response effort.

All of the breakout tanks in the pipeline system are within adequate secondary containment, therefore, the discharge volumes for the largest tank was determined by adjusting the total tank volume downward by 50% per the company guidelines.

The maximum historic discharge is not applicable for WCD covered by this plan. Given below are the tank and pipeline WCD calculations for this plan.

These tank volumes are as follows:

LOCATION	VOLUME (BBLS)
Tank 10026	100,000.00
Tank 10027	100,000.00
Tank 8308	84,100.00

The worst case tank volume is calculated as follows:

Largest tank x Credit for containment tank standards = Tank standards credit

If applicable, the Company will implement all of the spill prevention measures, listed on the previous page, except tertiary containment. Therefore, the percent reduction allowed for credit equals 50% and the worst case discharge volume is 50% of the total volume.

Tank 10026 (100,000.00) x 0.5 = 50,000.00 bbls.

Tank 10027 (100,000.00) x 0.5 = 50,000.00 bbls.

Tank 8308 (84,100.00) x 0.5 = 42,050.00 bbls.

The worst case discharge for the pipeline segment is calculated at the OLY Pump Station to ST-2 (Line 1).

WCD = [(DT + ST) x MF] + DD

Where:

WCD = worst case discharge (bbl)

DT + ST = maximum detection time + maximum shut down time in adverse weather (generally five minutes except where noted)

MF = maximum flow rate (bph) (using 7500 bph)

DD = drain down volume (bbl) (internal diameter)

OLY Pump Station to ST-2 (Line 1) = 0.53 hours x 7500 bph + 384 bbls = 4,359.00 bbls

As detailed above, the discharges for tanks are larger than discharges for the pipeline; therefore, the DOT/PHMSA WCD volume for this plan is: Tank 10026 (100,000.00) x 0.5 = 50,000.00 bbls

D.7.4 Oregon Spill Calculation

D.7.4 Oregon Spill Calculation

D.8 PRODUCT CHARACTERISTICS AND HAZARDS

This Facility may store various types of commodities including but not limited to:

- Biodiesel
- Diesel
- Ethanol
- Gasoline
- HiTec 4142 Fuel Additive (Lubricity)
- HiTec 6590 Gasoline Fuel Additive
- Renewable Diesel
- Unisol(R) Liquid Red BK-50

The key chemical and physical characteristics of each of these oils and/or other small quantity products/ chemicals are identified in SDS. SDS can be obtained by the Facility via the Company intranet.

FIGURE D.8-1 describes primary oils handled.

FIGURE D.8-1 - SUMMARY OF COMMODITY CHARACTERISTICS

COMMON NAME	SDS NAME	HEALTH HAZARD	FLASH POINT	SPECIAL HAZARD	REACTIVITY	HEALTH HAZARD WARNING STATEMENT
Biodiesel	Biodiesel	0	0		0	Moderate skin irritant
Diesel	Diesel	2	2		0	May be fatal if swallowed and enters airways, causes skin irritation, harmful if inhaled, may cause damage to organs (blood, liver, thymus) through prolonged or repeated exposure, and suspected to cause cancer.
Ethanol	Ethanol	2	3		0	Causes skin irritation, serious eye irritation, may cause genetic defects, and may cause cancer.
Gasoline	Gasoline	1	3		0	Long term, repeated exposure may cause cancer, blood, kidney and nervous system damage, and contains benzene.
HiTec 4142 Fuel Additive (Lubricity)	HiTec 4142 Fuel Additiive	3	2		0	Flammable liquid and vapor. Harmful if inhaled. Causes skin irritation Suspected of causing cancer
HiTec 6590 Gasoline Fuel Additive	HiTec 6590 Gasoline Fuel Additve	2	2		1	Causes skin and respiratory irritation, suspected of causing cancer, drowsiness or dizziness, fatal if swallowed.
Renewable Diesel	Renewable Diesel	1	2		0	May be fatal if swallowed and enters airways. If Swallowed: Immediately call Poison Control and do not induce vomiting. Repeated exposure may cause skin dryness or cracking.
Unisol(R) Liquid Red BK-50	Unisol(R) Liquid Red BK-50	2	3	OX	0	Eye, skin, respiratory tract irritant. Suspected carcinogen and reproductive system. May cause drowsiness or dizziness. May cause damage to the hearing organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.

Health Hazard	**4 = Extremely Hazardous** **3 = Hazardous** **2 = Warning** **1 = Slightly Hazardous** **0 = No Unusual Hazard**	**Fire Hazard (Flash Point)**	**4 = Below 73°F, 22°C** **3 = Below 100°F, 37°C** **2 = Below 200°F, 93°C** **1 = Above 200°F, 93°C** **0 = Will not burn**
Special Hazard	**A = Asphyxiant** **C = Contains Carcinogen** **W = Reacts with Water** **Y = Radiation Hazard** **COR = Corrosive** **OX = Oxidizer** **H_2S = Hydrogen Sulfide** **P = Contents under Pressure** **T = Hot Material**	**Reactivity Hazard**	**4 = May Detonate at Room Temperature** **3 = May Detonate with Heat or Shock** **2 = Violent Chemical Change with High Temperature and Pressure** **1 = Not Stable if Heated** **0 = Stable**

APPENDIX E
CROSS-REFERENCES

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Figure E-1 - EPA / FRP Cross-Reference

Figure E-2 - EPA / SPCC Cross-Reference

Figure E-3 - USCG / FRP Cross-Reference

Figure E-4 - DOT / PHMSA Cross-Reference

Figure E-5 - Oregon Cross-Reference

Figure E-6 - OSHA Cross-Reference

Figure E-7 - EPA Response Plan Cover Sheet

FIGURE E-1 - EPA / FRP CROSS-REFERENCE

EPA FRP REQUIREMENTS	LOCATION
Response Plan Cover Sheet (sec. 2.0)	
General Information (sec. 2.1)	
Facility Name	Figure E-7
Facility Address	Figure E-7
Facility Telephone	Figure E-7
Mailing Address (if different from Facility Address)	Figure E-7
Facility Owner/operator	Figure E-7
Facility Owner & Operator Address (recommended)	Figure E-7
Facility Owner Telephone (recommended)	Figure E-7
Dun and Bradstreet Number	Figure E-7
Longitude (degrees, minutes, seconds)	Figure E-7
Latitude (degrees, minutes, seconds)	Figure E-7
North American Industrial Classification System (NAICS) Code	Figure E-7
Facility Start Up Date (recommended)	Figure E-7
Facility Acres (recommended)	Figure E-7
Name of Protected Waterway or Environmentally Sensitive Area	Figure E-7
Distance to Navigable Water	Figure E-7
Worst Case Discharge Amount	Figure E-7
Maximum Oil Storage Capacity	Figure E-7
Largest AST Capacity (gallons)	Figure E-7
Total Number of ASTs	Figure E-7
Total Number of USTs	Figure E-7
Total UST Storage	Figure E-7
Total Storage of Drums & Transformers that contain Oil	Figure E-7
Number of Surface Impoundments and Total Storage of Surface Impoundments	Figure E-7
Applicability of Substantial Harm Criteria (sec. 2.2)	Figure E-7
Certification (sec. 2.3)	Figure E-7
Model Facility-Specific Response Plan (sec. 1.0)	
Emergency Response Action Plan (ERAP) (sec. 1.1)	
Separate Section of FRP	ERAP
Qualified Individual (QI) Information (sec. 1.2) partial	Figure 3-4
Emergency Notification Phone List (sec. 1.3.1) partial	Figure 3-4, Figure 3-5
Spill Response Notification Form (sec. 1.3.1) partial	ERAP - Figure 3-1, Figure 3-2, Figure 3-3
Response Equipment List and Location (sec. 1.3.2) complete	ERAP - Figure 4-2, Figure 4-3

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Emergency Response Action Plan (ERAP) (sec. 1.1), Continued	
Response Equipment Testing and Deployment (sec. 1.3.3) complete	ERAP - Figure 4-4
Facility Response Team List (sec. 1.3.4) partial	Figure 3-4
Evacuation Plan (sec. 1.3.5) condensed	ERAP - Section 2.2
Immediate Actions (sec. 1.7.1) complete	ERAP - Section 2.0
Facility Diagrams (sec. 1.9) complete	ERAP - Section 5.0
Facility Information (sec. 1.2)	
Facility Name (sec. 1.2.1)	Figure 1-2
Street Address	Figure 1-2
City, State, Zip Code	Figure 1-2
County	Figure 1-2
Phone Number	Figure 1-2
Latitude and Longitude (sec. 1.2.2)	Figure 1-2
Wellhead Protection Area (sec. 1.2.3)	Figure 1-2
Owner/Operator (both names included, if different (sec. 1.2.4)	Figure 1-2
Qualified Individual Information (sec. 1.2.5) (name, position, home and work street addresses, phone numbers) and description of specific response training experience	Figure 1-2, Figure A.2-2, Figure A.2-3
Date of Oil Storage Start-up (sec. 1.2.6)	Figure 1-2
Current Operation (sec. 1.2.7)	Figure 1-2
Date and Types of Substantial Expansion (sec. 1.2.8)	Figure 1-2, Figure C-5
SIC and NAICS Codes	Figure 1-2, Figure E-7
Emergency Response Information (sec. 1.3)	
Notification (sec. 1.3.1)	
National Response Center (NRC) phone number	Figure 3.1-6
Qualified Individual (day and evening) phone numbers	Figure 1-2, Figure 3.1-5
Company Response Team (day and evening) phone numbers	Figure 3.1-5
Federal On-Scene Coordinator (FOSC) and/ or Regional Response Center (day and evening) phone numbers	Figure 3.1-6
Local Response Team phone numbers (Fire Department/Cooperatives)	Figure 3.1-6
Fire Marshal (day and evening) phone numbers	Figure 3.1-6
State Emergency Response Commission (SERC) (day and evening) phone number	Figure 3.1-6
State Police phone number	Figure 3.1-6
Local Emergency Planning Committee (LEPC) phone number	Figure 3.1-6

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Notification (sec. 1.3.1), Continued	
Local Water Supply System (day and evening) phone numbers	Figure 3.1-6
Weather Report phone number	Figure 3.1-6
Local Television/Radio Station phone number(s) for Evacuation Notification	Figure 3.1-6
Spill Response Contractor(s)	Figure 3.1-6
Hospital phone number	Figure 3.1-6
Wastewater Treatment Facility(s) name and phone number (recommended)	Section 6.11 (ISS)
Factories/Utilities with Water Intakes (recommended)	Section 6.11 (ISS)
Trustees of Sensitive Areas (recommended)	Section 6.11 (ISS)
Spill Response Notification Form	
• Reporter's Name, Position, Phone Number	Figure 3.1-4
• Company Information	Figure 3.1-4
• Were Materials Discharged	Figure 3.1-4
• Meeting Federal Obligations to Report	Figure 3.1-4
• Calling for Responsible Party	Figure 3.1-4
• Time Called	Figure 3.1-4
• Incident Description (source/cause)	Figure 3.1-4
• Date/Time of Incident	Figure 3.1-4
• Incident Address/Location	Figure 3.1-4
• Nearest City/State/County/Zip	Figure 3.1-4
• Distance from City/Units of Measure/Direction from City, Section, Township, Range, Borough	Figure 3.1-4
• Container Type/Tank Oil Storage Capacity/Units of Measure	Figure 3.1-4
• Facility Oil Storage Capacity/Units of Measure	Figure 3.1-4
• Facility Longitude and Latitude	Figure 3.1-4
Response Equipment List (Identify if Facility, OSRO, CO-OP owned by letters O, F, or C) (sec. 1.3.2)	
Skimmers/Pumps (Operational Status, Type/Model/Year, Number or Quantity, Capacity, Daily Effective Recovery Rate, Storage Location)	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Boom (Containment Boom: Operational Status, Year, Number, Skirt Size. Sorbent Boom: Operational Status, Type/Model/Year, Number, Size (Length))	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Chemical Countermeasures Agents Stored	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Sorbents (Type, Year Purchased, Amount, Storage Location)	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Response Equipment List (Identify if Facility, OSRO, CO-OP owned by letters O, F, or C) (sec. 1.3.2), Continued	
Hand Tools (Type, Quantity, Storage Location)	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Communications Equipment (Operational Status, Type, Operational Frequency, Quantity)	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Fire Fighting and Personnel Protective Equipment	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Other (e.g., Heavy Equipment, Cranes, Dozers, etc.) (Operational Status, Type, and Year, Quantity, Storage Location)	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Equipment Location	Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Amount of oil that emergency response equipment can handle and limitations (e.g., launching sites) must be described.	Section 6.11, Section 7.1.1, Figure 7.1-1, Appendix B.1.1, Figure B.1-1
Response Equipment Testing/ Deployment (sec. 1.3.3)	
Last inspection or equipment test date	Figure A.1-4
Inspection frequency	Figure A.1-4
Last deployment drill date	Figure A.1-4
Deployment frequency	Figure A.1-4
OSRO certification (if applicable)	Figure A.1-4
Response Personnel (sec. 1.3.4)	
Emergency Response Personnel Information (Personnel whose duties involve responding to emergencies, including oil discharges, even when they are not present at the site)	Figure 3.1-5
• Name	Figure 3.1-5
• Phone Numbers (work/home, other)	Figure 3.1-5
• Response Time	Figure 3.1-5
• Responsibility	Figure 3.1-5
• Type and Date of Response Training	Figure 3.1-5, Figure A.2-3
Emergency Response Contractor Information	Figure 3.1-5, Figure 3.1-6, Figure 7.1-1, Appendix B
• Name	Figure 3.1-5, Figure 3.1-6, Figure 7.1-1, Appendix B
• Phone Numbers	Figure 3.1-5, Figure 3.1-6
• Response Time	Figure 3.1-5, Appendix B
• Evidence of Contractual Arrangements	Figure B.1-1

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Response Personnel (sec. 1.3.4), Continued	
Facility Response Team Information (Composed of Emergency Response Personnel and Emergency Response that will respond immediately)	Figure 3.1-5
• Name	Figure 3.1-5
• Job Function of Emergency Response Personnel	Figure 3.1-5
• Response Time	Figure 3.1-5
• Phone/Pager	Figure 3.1-5
• Name of Emergency Response Contractor (Contractors providing facility response team services may be different than contractors providing oil spill response services)	Figure 3.1-5
• Response Time	Figure 3.1-5
• Phone/Pager	Figure 3.1-5
Evacuation Plans (sec. 1.3.5)	
Facility Evacuation Plan (sec. 1.3.5.1)	Section 2.2
• Location of stored materials	Section 2.2
• Hazard imposed by spilled materials	Section 2.2
• Spill flow direction	Section 2.2
• Prevailing wind directions and speed	Section 2.2
• Water currents, tides, or wave conditions (if applicable)	Section 2.2
• Arrival route of emergency response personnel and response equipment	Section 2.2
• Evacuation routes	Section 2.2
• Alternative routes of evacuation	Section 2.2
• Transportation of injured personnel to nearest medical facility	Section 2.2
• Location of alarm/notification systems	Section 2.2
• Centralized check-in area for roll call	Section 2.2
• Mitigation command center location	Section 2.2
• Location of shelter at facility	Section 2.2
Community Evacuation Plans referenced (sec. 1.3.5.3)	Section 2.2
Evacuation routes shown on diagram	Figure C-8
Qualified Individual's Duties (sec. 1.3.6)	
Description of duties	Section 4.5
• Activate internal alarms and hazard communications systems	Section 4.5
• Notify Response Personnel	Section 4.5
• Identify character, exact source, amount and extent of the release	Section 4.5

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Qualified Individual's Duties (sec. 1.3.6), Continued	
• Notify and provide information to appropriate Federal, State and local authorities	Section 4.5
• Assess interaction of spilled substance with water and/or other substances stored at facility and notify on-scene personnel of assessment	Section 4.5
• Assess possible hazards to human health and environment	Section 4.5
• Assess and implement prompt removal actions	Section 4.5
• Coordinate rescue and response actions	Section 4.5
• Access company funding to initiate cleanup activities	Section 4.5
• Direct cleanup activities	Section 4.5
Consistent with requirements	Section 4.5
Qualified Individual identified with the Facility Information	Figure 1-2
Hazard Evaluation (sec. 1.4)	
Hazard Identification (sec. 1.4.1)	
Tank Above Ground and Below Ground:	Figure C-5
• Tank number(s)	Figure C-5
• Substance(s) Stored	Figure C-5
• Quantity(s) Stored	Figure C-5
• Tank Type(s)/Year(s) of Construction	Figure C-5
• Maximum Capacity(s)	Figure C-5
• Failure(s)/Cause(s)	Figure C-5
Surface Impoundments (SI):	Figure C-5
• SI Number(s)	Figure C-5
• Substance(s) Stored	Figure C-5
• Quantity(s) Stored	Figure C-5
• Surface Area(s)/Year(s) of Construction	Figure C-5
• Maximum Capacity(s)	Figure C-5
• Failure(s)/Cause(s)	Figure C-5
Labeled schematic drawing	Figure C-7
Description of transfers (loading and unloading) and volume of material	Figure 1-2
Description of daily operations	Figure 1-2
Secondary containment volumes	Figure 1-2, Figure C-5
Normal daily throughput of the facility	Figure 1-2

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Vulnerability Analysis (sec. 1.4.2)	
Analysis of the potential effects of an oil spill on vulnerable areas. **(Attachment C-III to Appendix C of this part provides a method that owners or operators shall use to determine appropriate distances from the facility to fish and wildlife and sensitive environments. Owners or operators can use a comparable formula that is considered acceptable by the RA. If a comparable formula is used, documentation of the reliability and analytical soundness of the formula must be attached to the Response Plan Cover Sheet).**	Figure D.4-1
• Water intakes	Section 6.6, Section 6.11
• Schools	Section 6.6, Section 6.11
• Medical facilities	Section 6.6, Section 6.11
• Residential areas	Section 6.6, Section 6.11
• Business	Section 6.6, Section 6.11
• Wetlands or other environmentally sensitive areas	Section 6.6, Section 6.11
• Fish and wildlife	Section 6.6, Section 6.11
• Lakes and streams	Section 6.6, Section 6.11
• Endangered flora and fauna	Section 6.6, Section 6.11
• Recreational areas	Section 6.6, Section 6.11
• Transportation routes (air, land, and water)	Section 6.6, Section 6.11
• Utilities	Section 6.6, Section 6.11
• Other applicable areas (List below)	Section 6.6, Section 6.11
• Other areas:	Section 6.6, Section 6.11
Analysis of Potential for a Spill (sec. 1.4.3)	
Description of likelihood of release occurring	Appendix D.2.1
• Oil spill history for the life of the facility	Appendix D.2.1, Figure C-15
• Horizontal range of potential spill	Appendix D.2.1, Figure D.4-1
• Vulnerability to natural disaster	Appendix D.2.1
• Other factors, such as tank age	Appendix D.2.1, Figure C-5
• Other factors (e.g., unstable soils, earthquake zones, Karst topography, etc.)	Appendix D.2.1
Facility Reportable Oil Spill History Description (sec. 1.4.4)	
Date of discharge(s)	Figure C-15
List of discharge causes	Figure C-15
Material(s) discharged	Figure C-15
Amount of discharge(s) in gallons	Figure C-15
Amount of discharge that reached navigable waters (if applicable)	Figure C-15
Effectiveness and capacity of secondary containment	Figure C-15

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Facility Reportable Oil Spill History Description (sec. 1.4.4), Continued	
Clean-up actions taken	Figure C-15
Steps taken to reduce possibility of reoccurrence	Figure C-15
Total oil storage capacity of tank(s) or impoundment(s) from which material discharged	Figure C-15
Enforcement actions	Figure C-15
Effectiveness of monitoring equipment	Figure C-15
Descriten_body_boldion(s) of how each spill was detected	Figure C-15
Discharge Scenarios (sec. 1.5)	
Small and Medium Volume Discharges (sec. 1.5.1)	
Small Volume Discharges (sec. 1.5.1) (Description of small discharges addressing facility operations and components including but not limited to: (sec. 1.5.1.1)	
Loading and unloading operations	Appendix D.5.1
Facility maintenance operation	Appendix D.5.1
Facility piping	Appendix D.5.1
Pumping stations and sumps	Appendix D.5.1
Oil storage tanks	Appendix D.5.1
Vehicle refueling operations	Appendix D.5.1
Age and condition of facility components	Appendix D.5.1
Small volume discharge calculation for a facility	Appendix D.5.1
Facility-specific spill potential analysis	Appendix D.5.1
Average most probable discharge for "complexes"	Appendix D.5.1, Appendix D.7
1,000 feet of boom (1 hour deployment time)	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Correct amount of boom for complexes	Appendix D.5.1
Oil recovery devices equal to small discharge (2 hour recovery time)	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Oil storage capacity for recovered material	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Scenarios Affected by the Response Efforts (sec. 1.5.1.2)	
Size of the discharge	Appendix D.5.1, Appendix D.5.3
Proximity to downgradient wells, waterways and drinking water intakes	Appendix D.5.1, Appendix D.5.3, Section 6.7, Section 6.11
Proximity to fish and wildlife and sensitive environments	Appendix D.5.1, Appendix D.5.3, Section 6.7, Section 6.11

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Scenarios Affected by the Response Efforts (sec. 1.5.1.2), Continued	
Likelihood that the discharge will travel off-site (i.e., topography, drainage)	Appendix D.5.1, Appendix D.5.3
Location of the material discharged (i.e., on a concrete pad or directly on the soil)	Appendix D.5.1, Appendix D.5.3
Material discharged	Appendix D.5.1, Appendix D.5.3
Weather or aquatic conditions (i.e., river flow)	Appendix D.5.1, Appendix D.5.3
Available remediation equipment	Appendix D.5.1, Appendix D.5.3
Probability of a chain reaction of failures	Appendix D.5.1, Appendix D.5.3
Direction of discharge pathway	Appendix D.5.1, Appendix D.5.3
Medium Discharges (sec. 1.5.1) (Description of medium discharges scenarios addressing facility operations and components including but not limited to: (sec. 1.5.1.1)	
Loading and unloading operations	Appendix D.5.1
Facility maintenance operation	Appendix D.5.1
Facility piping	Appendix D.5.1
Pumping stations and sumps	Appendix D.5.1
Oil storage location	Appendix D.5.1
Vehicle refueling operations	Appendix D.5.1
Age and condition of facility components	Appendix D.5.1
Medium volume discharge calculation for a facility	Appendix D.5.1
Facility-specific spill potential analysis	Appendix D.5.1
Maximum most probable discharge for complexes	Appendix D.5.1
Oil recovery devices equal to medium discharge	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Availability of sufficient quantity of boom	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Oil storage capacity for recovered material	Section 7.1.1, Figure 7.1-1, Appendix B, Appendix D.5.1
Scenarios Affected by the Response Efforts (sec. 1.5.1.2)	
Size of the discharge	Appendix D.5.1, Appendix D.5.3
Proximity to downgradient wells, waterways and drinking water intakes	Appendix D.5.1, Appendix D.5.3, Section 6.7, Section 6.11

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Scenarios Affected by the Response Efforts (sec. 1.5.1.2), Continued	
Proximity to fish and wildlife and sensitive environments	Appendix D.5.1, Appendix D.5.3, Section 6.7, Section 6.11
Likelihood that the discharge will travel off-site (i.e., topography, drainage)	Appendix D.5.1, Appendix D.5.3
Location of the material discharged (i.e., on a concrete pad or directly on the soil)	Appendix D.5.1, Appendix D.5.3
Material discharged	Appendix D.5.1, Appendix D.5.3
Available remediation equipment	Appendix D.5.1, Appendix D.5.3
Probability of a chain reaction of failures	Appendix D.5.1, Appendix D.5.3
Direction of discharge pathway	Appendix D.5.1, Appendix D.5.3
Worst Case Discharge (WCD) (sec. 1.5.2) (see Appendix A) (When planning for the worst case discharge response all of the factors listed in the small and medium discharge section of the response plan shall be addressed)	
Facility Specific Worst Case Discharge Scenario	Appendix D.5.2
Description of worst case discharges scenarios addressing facility operations and components including but not limited to: (sec. 1.5.1.1)	Appendix D.5.2
• Loading and unloading operations	Appendix D.5.2
• Facility maintenance operation	Appendix D.5.2
• Facility piping	Appendix D.5.2
• Pumping stations and sumps	Appendix D.5.2
• Oil storage location	Appendix D.5.2
• Vehicle refueling operations	Appendix D.5.2
• Age and condition of facility components	Appendix D.5.2
• Correct Worst Case Discharge (WCD) calculation for specific type of facility (Appendix D)	Appendix D.7, Appendix D.5.2
• Correct Worst Case Discharge calculation for complexes	Appendix D.5.2
• Sufficient response resources for WCD (Appendix E)	Figure 3.1-6, Figure 7.1-1, Appendix B, Appendix D.7
• Sources and quantity of equipment for response to WCD	Figure 7.1-1, Appendix B, Appendix D.7
• Oil storage capacity for recovered material	Section 7.1.1, Figure 7.1-1, Section 7.4, Figure 7.4-3, Appendix B, Appendix D.7

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Scenarios Affected by the Response Efforts (sec. 1.5.1.2)	
Size of the discharge	Appendix D.5.2, Appendix D.5.3
Proximity to downgradient wells, waterways and drinking water intakes	Appendix D.5.2, Appendix D.5.3, Section 6.7, Section 6.11
Proximity to fish and wildlife and sensitive environments	Appendix D.5.2, Appendix D.5.3, Section 6.7, Section 6.11
Likelihood that the discharge will travel off-site (i.e., topography, drainage)	Appendix D.5.2, Appendix D.5.3
Location of the material discharged (i.e., on a concrete pad or directly on the soil)	Appendix D.5.2, Appendix D.5.3
Material discharged	Appendix D.5.2, Appendix D.5.3
Weather or aquatic conditions (i.e., river flow)	Appendix D.5.2, Appendix D.5.3
Available remediation equipment	Appendix D.5.2, Appendix D.5.3
Probability of a chain reaction of failures	Appendix D.5.2, Appendix D.5.3
Direction of discharge pathway	Appendix D.5.2 (Worst Case Discharge), Appendix D.5.3
Discharge Detection Systems (sec. 1.6)	
Discharge Detection by Personnel (sec. 1.6.1)	
Description of procedures and personnel for spill detection	Appendix D.3
Description of facility inspections	Figure C-4 [40 CFR 112.7(e)], Figure C-12, Appendix D.3
Description of initial response actions	Figure 2-1
Emergency Response Information (referenced)	Figure 3.1-5
Automated Discharge Detection (sec. 1.6.2)	
Description of automatic spill detection equipment, including overfill alarms and secondary containment sensors	Appendix D.3
Description of alarm verification procedures and subsequent actions	Appendix D.3
Plan Implementation (sec. 1.7)	
Response Resources for Small, Medium and Worst Case Discharges (sec. 1.7.1)	
Demonstration of accessibility of proper response personnel and equipment	Appendix B
Description of response actions	Section 2, Appendix D.5.1, Appendix D.5.2
• Emergency plans for spill response	Section 2, Appendix D.5.1, Appendix D.5.2
• Additional response training	Appendix A.2

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Response Resources for Small, Medium and Worst Case Discharges (sec. 1.7.1), Continued	
• Additional contracted help	Appendix B
• Access to additional equipment/ experts	Appendix B
• Ability to implement plan, including training and practice drills	Appendix A
Recommended form detailing Immediate Actions for Small, Medium, and Worst Case spills (sec. 1.7.1.2A) (Stop the Product Flow, Warn Personnel, Shut Off Ignition Sources, Initiate Containment, Notify NRC, Notify OSC, Notify (as appropriate))	Figure 2-1, Appendix D.7
Disposal Plans (sec. 1.7.2)	
Description of procedures for recovering, reusing, decontaminating or disposing of materials	Section 5.6, Section 7.4, Figure 7.4-4
Materials addressed in Disposal Plan **(Recovered product, contaminated soil, contaminated equipment and materials (including drums, tank parts, valves and shovels), personnel protective equipment, decontamination solutions, absorbents, spent chemicals)**	Figure 7.4-4
Plan prepared in accordance with any Federal, State and/or local regulations	Section 5.6, Section 7.4
Plan addresses permits required to transport or dispose of recovered materials	Section 5.6, Figure 7.4-4
Containment and Drainage Planning (sec. 1.7.3)	
Containment and drainage plan available	Figure C-16
• Description of containing/controlling a spill through drainage	Figure C-16
• Containment volume	Figure C-16
• Drainage route from oil storage and transfer areas	Figure C-16
• Construction materials in drainage troughs	Figure C-16
• Type and number of valves separators in drainage system	Figure C-16
• Sump pump capacities	Figure C-16
• Containment capacity of weirs and booms and their location	Figure C-16
• Other clean up materials	Figure C-16

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Self-Inspection, Training, and Meeting Logs (sec. 1.8)	
Facility Self-Inspection (sec. 1.8.1)	
Records of tank inspections with dates (Tank Leaks, Tank Foundations, Tank Piping) contained or cross-referenced in plan or maintained electronically for five years (sec. 1.8.1.1)	Figure C-12
Records of secondary containment inspections with dates (Dike or Berm System, Secondary Containment, Retention and Drainage Ponds) contained or cross-referenced in plan or maintained electronically for five years (sec. 1.8.1.3)	Figure C-12
Response Equipment Inspection (sec. 1.8.1.2)	
Inventory (item and quantity)	Figure D.3-1
Storage location	Figure D.3-1
Accessibility (time to access and respond)	Figure D.3-1
Operational status/condition	Figure D.3-1
Actual use/testing (last test date and frequency of testing)	Maintain On-Site
Shelf life (present age, expected replacement date)	Figure D.3-1
Inspection date	Figure D.3-1
Inspector's signature	Figure D.3-1
Inspection records maintained for 5 years	Figure D.3-1
Response Equipment Inspection Log (Inspector, Date, Comments)	Figure D.3-1
Facility Drills/ Exercises (sec. 1.8.2)	
Description of drill/exercise program based on PREP guidelines or other comparable program	Appendix A.1, Figure A.1-2
• Qualified Individual Notification Drills	Figure A.1-2
• Spill Management Team Tabletop Exercises	Figure A.1-2
• Equipment deployment exercise	Figure A.1-2
• Unannounced exercise	Figure A.1-2
• Area exercise	Figure A.1-2
Description of evaluation procedures for drill program	Figure A.1-2
Qualified Individual Notification Drill Log (sec. 1.8.2.1) (date, company, qualified individual, other contacted, emergency scenario, evaluation)	Figure A.1-5
Spill Management Team Tabletop Drill Log (sec. 1.8.2.2) (date, company, qualified individual, participants, emergency scenario, evaluation, changes to be implemented, time table for implementation)	Figure A.1-6
Response Training (sec. 1.8.3)	
Description of response training program (including topics)	Figure A.2-2
Personnel Response Training Logs (name, response training date/ and number of hours, prevention training date/ and number of hours)	Figure A.2-3
Discharge Prevention Meeting Log (date, attendees)	Figure C-11

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Diagrams (sec. 1.9)	
Site Plan Diagram	
Entire facility to scale	Figure 1-5
Above and below-ground bulk storage tanks	Figure 1-5
Contents and capacities of bulk oil storage tanks	Figure 1-5
Contents and capacities of drum storage areas	Figure 1-5
Contents and capacities of surface impoundments	Figure 1-5
Process buildings	Figure 1-5
Transfer areas	Figure 1-5
Location and capacity of secondary containment systems	Figure 1-5
Location of hazardous materials (structures where hazardous materials are stored or handled, including materials stored and capacity of storage)	Figure 1-5
Location of communication and emergency response equipment	Figure 1-5
Location of electrical equipment that might contain oil	Figure 1-5
If the Facility is a Complex Facility, the interface between EPA and other regulating agencies	N/A
Site Drainage Plan Diagram	
Major sanitary and storm sewers, manholes, and drains	Figure C-7
Weirs and shut-off valves	Figure C-7
Surface water receiving streams	Figure C-7
Fire fighting water sources	Figure C-7
Other utilities	Figure C-7
Response personnel ingress and egress	Evacuation Diagram "Figure C-8"
Equipment transportation routes	Figure C-7, Evacuation Diagram "Figure C-8"
Direction of spill flow from release points	Figure C-7
Site Evacuation Diagram	
Site plan diagram with evacuation routes	Figure C-8
Location of evacuation regrouping areas	Figure C-8

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Site Security (sec. 1.10)	
Emergency cut-off locations	Figure 7.3-2
Enclosure	Figure 7.3-2
Guards and their duties, day and night	Figure 7.3-2
Lighting	Figure 7.3-2
Valve and pump locks	Figure 7.3-2
Pipeline connection caps	Figure 7.3-2

FIGURE E-2 - EPA / SPCC CROSS-REFERENCE

EPA SPCC REQUIREMENTS (40 CFR 112.7 and 112.8)	LOCATION
112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans	
a. General requirements	
1. Include a discussion of your facility's conformance with the requirements listed in this part	Appendix C
3. Describe in your Plan the physical layout of the facility and include a facility diagram	Figure 1-5, Figure C-7, Figure C-8
i. The type of oil in each container and its storage capacity	Figure C-5
ii. Discharge prevention measures	Section 2, Figure C-4
iii. Discharge or drainage controls	Figure C-4, Figure C-7
iv. Countermeasures for discharge	Section 2
v. Methods of disposal	Section 7
vi. Contact list and phone numbers	Section 3
4. Unless you have submitted a response plan, provide information and procedures to report a discharge	N/A
5. Unless you have submitted a response plan, describe procedures you will use when a discharge occurs	N/A
b. Prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure	Figure C-5
c. Provide appropriate containment	Figure C-5
d. If you determine that the installation of any of the structures or pieces of equipment is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under § 112.20, provide in your Plan the following:	Appendix C
1. An oil spill contingency plan following the provisions of part 109 of this chapter	N/A
2. A written commitment of manpower, equipment, and materials	N/A
e. Inspections, tests, and records	Appendix C
f. Personnel, training, and discharge prevention procedures	Appendix C
1. Oil-handling personnel training	Appendix C
2. Person accountable for discharge prevention	Appendix C
3. Schedule and conduct discharge prevention briefings	Appendix C

FIGURE E-2 - EPA / SPCC CROSS-REFERENCE, CONTINUED

EPA SPCC REQUIREMENTS (40 CFR 112.7 and 112.8)	LOCATION
112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans, continued	
g. Security (excluding oil production facilities)	Figure C-4
1. Facility fencing	Figure C-4
2. Master flow, drain valves, and other valves remain in closed position	Figure C-4
3. Lock the starter control on each oil pump in “off” position	Figure C-4
4. Securely cap or blank-flange the loading/ unloading connections	Figure C-4
5. Provide facility lighting	Figure C-4
i. Discovery of discharges occurring during hours of darkness	Figure C-4
ii. Prevention of discharges occurring through acts of vandalism	Figure C-4
h. Facility tank car and tank truck loading/ unloading rack (excluding offshore facilities)	Figure C-4
1. Catchment basin, treatment facility, or quick drainage system	Figure C-4
2. Provide vehicular disconnect warning system	Figure C-4
3. Inspect for discharges of the lower most drain	Figure C-4
i. Aboveground container brittle fracture evaluation	Figure C-4
j. Discussion of conformance with the applicable requirements	Figure C-4
112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)	
b. Facility drainage	Figure C-4
1. Restrain drainage from diked storage areas except where facility systems are designed to control such discharge	Figure C-4
2. Use valves of manual, open-and-closed design, for the drainage of diked areas	Figure C-4
3. Design facility drainage systems from undiked areas with a potential for a discharge to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility	Figure C-4
4. Equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility	Figure C-4
5. Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps	Figure C-4

FIGURE E-2 - EPA / SPCC CROSS-REFERENCE, CONTINUED

EPA SPCC REQUIREMENTS (40 CFR 112.7 and 112.8)	LOCATION
112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities), continued	
c. Bulk storage containers	Figure C-4
1. Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature	Figure C-4
2. Provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation	Figure C-4
3. Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:	Figure C-4
i. Normally keep the bypass valve sealed closed	Figure C-4
ii. Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b)	Figure C-4
iii. Open the bypass valve and reseal it following drainage under responsible supervision; and	Figure C-4
iv. Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter	Figure C-4
4. Protect completely buried metallic storage tanks from corrosion	Figure C-4
5. Protect partially buried and bunkered tanks from corrosion	Figure C-4
6. Test each aboveground container for integrity on a regular schedule	Figure C-4
7. Control leakage through defective internal heating coils	Figure C-4
8. Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:	Figure C-4
i. High liquid level alarms with an audible or visual signal	Figure C-4
ii. High liquid level pump cutoff devices	Figure C-4
iii. Direct audible or code signal communication between the container gauger and the pumping station	Figure C-4
iv. A fast response system	Figure C-4
v. Regularly test liquid level sensing devices to ensure proper operation	Figure C-4
9. Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b)	Figure C-4

FIGURE E-2 - EPA / SPCC CROSS-REFERENCE, CONTINUED

EPA SPCC REQUIREMENTS (40 CFR 112.7 and 112.8)	LOCATION
112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities), continued	
10. Promptly correct visible discharges which result in a loss of oil from the container	Figure C-4
11. Position or locate mobile or portable oil storage containers to prevent a discharge	Figure C-4
d. Facility transfer operations, pumping, and facility process	Figure C-4
1. Provide protection of buried piping that is installed or replaced on or after August 16, 2002	Figure C-4
2. Cap or blank-flange the terminal connection at the transfer point	Figure C-4
3. Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction	Figure C-4
4. Regularly inspect all aboveground valves, piping, and appurtenances	Figure C-4
5. Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations	Figure C-4

FIGURE E-3 - USCG / FRP CROSS-REFERENCE

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
a) Introduction and Plan Content	
1. Facility Name and Location (address, city, county, state, zip, phone number, fax number).	Figure 1-2
2. Facility Directions (including but not limited to maps, landmarks and river mile that could aid a responder and reviewer).	Figure 1-2, Figure 1-3
3. Name, address and procedures for contacting the facility's owner or operator on a 24 hour basis.	Figure 1-2, Figure 3.1-4
4. Table of contents.	Table of Contents
5. Period when submitted plan does not have to conform to the subpart, a cross index, if appropriate.	Figure E-3
6. Record of change(s) to record information on plan updates.	Record of Changes
b) Emergency Response Action Plan	
1. Notification procedures • Prioritized list of facility response personnel. • Federal, State or local agencies, as required • Spill response notification forms to Federal, State, local agencies. Form must state that initial notification must not be delayed by collection of data. • Notification of the National Response Center.	Section 3, Figure 3.1-3, Figure 3.1-5, Figure 3.1-6

2. Facility's spill mitigation procedures
• Describe volume and oil groups that would be involved in the following:
  • Average, maximum and worse discharge from the MTR facility.
• Where applicable, the worst case discharge from the non-transportation-related facility.
• Prioritized list of procedures and facility personnel (identified by job title). Procedures must address actions to be taken in the event of a discharge, potential discharge or emergency involving the following equipment and scenarios:
• Transfer equipment
  • Tank overfill or failure
  • Piping rupture, leak both under pressure and not under pressure
  • Explosion or fire
  • Equipment failure
• Listing of equipment and the responsibilities of facility personnel to mitigate an average most probable discharge
	Section 2.1.1, Figure 2.1-3, Appendix D

3. Facility's response activities	
i. Responsibilities of facility personnel to initiate a response and supervise response resources pending arrival of qualified individuals.	Figure 2.1-2
ii. Responsibilities and authority of the qualified individual and alternate as required in § 154.1026.	Section 4.5

FIGURE E-3 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
iii. Apply the following organizational structure to manage response actions: • Command and control • Public information • Safety • Liaison with government agencies • Spill operations • Planning • Logistics support • Finance	Section 4.6, Figure 4.5-2
iv. Identify oil spill removal organizations and the spill management teams to be capable of providing the following response resources: • Equipment and supplies to meet § 154.1045, 154.1047, as appropriate. • Trained personnel for response to be on hand for the first 7 days of the response.	Section 4.6, Section 7.1, Appendix B
v. Job descriptions for each spill management team member within the organizational structure described in paragraph (b)(3)(iii) of this section. These job descriptions must include the responsibilities and duties of each spill management team member in a response action.	Figure 3.1-5, Section 4.6
vi. For facilities that handle, store, or transport group II through group IV petroleum oils, and that operate in waters where dispersant use is pre-authorized, this subsection of the plan must also separately list the resource providers and specific resources, including appropriately trained dispersant-application personnel, necessary to provide the dispersant capabilities required in this subpart. All resource providers and resources must be available by contract or other approved means as described in §154.1028(a). Dispersant resources to be listed within this section must include the following: • Identification of each primary dispersant staging site to be used by each dispersant-application platform to meet the requirements of this subpart. • Identification of the platform type, resource-providing organization, location, and dispersant payload for each dispersant-application platform identified. Location data must identify the distance between the platform's home base and the identified primary dispersant staging site for this section. • For each unit of dispersant stockpile required to support the effective daily application capacity (EDAC) of each dispersant-application platform necessary to sustain each intended response tier of operation, identify the dispersant product resource provider, location, and volume. Location data must include the stockpile's distance to the primary staging sites where the stockpile would be loaded onto the corresponding platforms.	Figure 3.1-6, Appendix B

FIGURE E-3 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
• If an oil spill removal organization has been evaluated by the Coast Guard, and its capability is equal to or exceeds the response capability needed by the owner or operator, the section may identify only the oil spill removal organization, and not the information required in paragraphs (b)(3)(vi)(A) through (b)(3)(vi)(C) of this section.	Figure 3.1-6, Appendix B
vii. This subsection of the plan must also separately list the resource providers and specific resources necessary to provide aerial oil tracking capabilities required in this subpart. The oil tracking resources to be listed within this section must include the following: • The identification of a resource provider; and • Type and location of aerial surveillance aircraft that are ensured available, through contract or other approved means, to meet the oil tracking requirements of §154.1045(j).	Figure 3.1-6, Appendix B
viii. For mobile facilities that operate in more than one COTP zone, the plan must identify the oil spill removal organization and the spill management team in the applicable geographic-specific appendix. The oil spill removal organization(s) and the spill management team discussed in paragraph (b)(3)(iv) of this section must be included for each COTP zone in which the facility will handle, store, or transport oil in bulk.	N/A
ix. For mobile facilities in more than one COTP zone, oil spill removal organizations and the spill management teams must be identified from paragraph (3)(iv) and included in each COTP zone.	N/A
4. Fish and wildlife sensitive environments	
i. Identify areas of economic importance and environmental sensitivities as identified in the ACP, which are potentially impacted by a worst case discharge.	Section 6.7
ii. For a worst case discharge the plan must address the following:· • List all sensitive elements identified in ACP that are potentially impacted by a discharge· • Describe all response actions anticipated to protect sensitive elements· • Contain map or chart that depicts each response action anticipated.	Appendix D.7 Section 6, Figure 6.3-1
iii. Identify appropriate equipment and personnel as described in § 154.1028 to protect sensitive elements by one of the following calculations: • Persistent oils and non-petroleum oils discharged into non-tidal waters, the distance from the facility reached in 48 hours at maximum current.	Section 7.1, Appendix B, Appendix D

FIGURE E-3 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
• Persistent and non-petroleum oils discharged into tidal waters, 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide. • Non-persistent oils discharged into non-tidal waters, the distance from the facility reached in 24 hours at maximum current. • Non-persistent oils discharged into tidal waters, 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide. • Spill trajectory or model maybe substituted if acceptable to COTP. • Procedures contained in the Environmental Protection's Agency's regulations on oil pollution prevention may be substituted for non-tidal and tidal waters. • COTP may require additional sensitive elements to be protected depending on trajectory.	Section 7.1, Appendix B, Appendix D
5. Disposal plan Describe actions and procedures that adhere to Federal, state or local requirements.	Section 5.6, Section 7.4
c) Training and Exercises	
1. Training procedures of the facility owner or operator must meet requirements of § 154.1050.	Appendix A, Appendix B
2. Exercise procedures of the facility owner or operator must meet requirements of § 154.1055.	Appendix A
d) Plan Review and Update Procedures	
Plan review and update procedures of the facility owner or operator must meet requirements of §154.1065 and any post-discharge review of the plan to evaluate and validate its effectiveness.	Section 1.2
e) Appendices	
1. Facility-specific information - principal characteristics	
i. There must be a physical description of the facility including a plan of the facility showing the mooring areas, transfer locations, control stations, locations of safety equipment, and the location and capacities of all piping and storage tanks.	Figure C-7, Figure C-8
ii. Identify sizes, types and number of vessels the facility can transfer oil to or from simultaneously.	Figure 1-2
iii. Identify the first valve(s) on piping separating transportation-related and non-transportation-related areas. If piping serves tank vessels from a manifold it is considered the first valve.	Figure C-9

FIGURE E-3 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
iv. The oil(s) and hazardous material handled, stored or transported in bulk must be documented and include the following: • Generic/chemical name • Description of appearance and odor • Hazards involved with handling or discharge • Firefighting procedures and extinguishing agents for oil/hazardous materials	Appendix D.8
2. List of contacts must include primary and alternate personnel, personnel from paragraph (b) (3) (iv), and Federal, state and local officials.	Figure 3.1-5, Figure 3.1-6
3. Equipment list and records must include the following: • List of equipment and facility personnel required to respond to an average most probable discharge, as defined by §154.1020 • List of equipment belonging to an oil spill removal organization as described in §154.1028; unless the organization has been classified by the Coast Guard to equal or exceed the response capability needed by the facility • When it is necessary for the appendix to contain a listing of response equipment, it shall include the following: skimmers; booms; dispersant application; in-situ burning; bioremediation equipment and supplies and other equipment used to apply other chemical agents on the NCP Product Schedule; communications, firefighting and beach cleaning equipment; boats and motors; and heavy equipment • This list must also include specifications for each piece of equipment as follows: 1. type, make, model and year of manufacture, 2. for oil recovery devices, the effective daily recovery rate, 3. for containment boom, the overall boom height and type of end connectors, 4. spill scenario in which the equipment will be used, 5. total daily capacity for storage and disposal of recovered daily oil 6. for communication equipment, the type and amount of equipment intended for use during response activities, 7. location of equipment, and 8. date of last inspection.	Section 7.1, Appendix B

FIGURE E-3 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
4. Communications plan must describe the primary and alternate method of communication during discharges, including communications at the facility and at remote locations.	Section 7.1.6
5. Site specific safety and health plan must describe the safety and health plan to be implemented. This appendix may reference another existing plan requiring under 29 CFR 1910.120	Section 5.4
6. List of acronyms and definitions must include all definitions that are critical to understanding the response plan.	Appendix F

FIGURE E-4 - DOT / PHMSA CROSS-REFERENCE

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
Information Summary	
• For the core plan:	
• Name and address of operator	Figure 1-2
• For each Response Zone which contains one or more line sections that meet the criteria for determining significant and substantial harm (§194.103), listing and description of Response Zones, including county(s) and state(s)	Figure 1-2
• For each Response Zone appendix:	
• Information summary for core plan	Figure 1-2
• QI names and telephone numbers, available on 24-hr basis	Figure 1-2, Figure 3.1-5
• Description of Response Zone, including county(s) and state(s) in which a worst case discharge could cause substantial harm to the environment	Figure 1-2
• List of line sections contained in Response Zone, identified by milepost or survey station or other operator designation	Figure 1-2
• Basis for operator's determination of significant and substantial harm	Figure 1-2
• The type of oil and volume of the worst case discharge	Appendix D.6, Appendix D.7
• Certification that the operator has obtained, through contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or threat of such discharge	Section 1.4, Appendix B
Notification Procedures	
• Notification requirements that apply in each area of operation of pipelines covered by the plan, including applicable state or local requirements	Figure 3.1-6
• Checklist of notifications the operator or Qualified Individual is required to make under the response plan, listed in the order of priority	Figure 2.1-1, Figure 3.1-4
• Name of persons (individuals or organizations) to be notified of discharge, indicating whether notification is to be performed by operating personnel or other personnel	Figure 3.1-1, Figure 3.1-5
• Procedures for notifying Qualified Individuals	Figure 3.1-1, Section 4.2
• Primary and secondary communication methods by which notifications can be made	Section 7.1.6

FIGURE E-4 - DOT / PHMSA CROSS-REFERENCE

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION

• Information to be provided in the initial and each follow-up notification, including the following:
  • Name of pipeline
  • Time of discharge
  • Location of discharge
  • Name of oil recovered
  • Reason for discharge (e.g. material failure, excavation damage, corrosion)
  • Estimated volume of oil discharged
  • Weather conditions on scene
  • Actions taken or planned by persons on scene
	Figure 3.1-2

Spill Detection and On-Scene Spill Mitigation Procedures	
• Methods of initial discharge detection	Appendix D.3
• Procedures, listed in order of priority, that personnel are required to follow in responding to a pipeline emergency to mitigate or prevent any discharge from the pipeline	Section 2

• List of equipment that may be needed in response activities based on land and navigable waters including:
  • Transfer hoses and pumps
  • Portable pumps and ancillary equipment
  • Facilities available to transport and receive oil from a leaking pipeline
	Section 7.1.1, Section 7.4, Appendix B

• Identification of the availability, location, and contact phone numbers to obtain equipment for response activities on a 24-hour basis	Figure 3.1-5, Figure 3.1-6, Appendix B
• Identification of personnel and their location, telephone numbers, and responsibilities for use of equipment in response activities on a 24-hour basis	Figure 3.1-5, Section 7.1, Appendix B
Response Activities	
• Responsibilities of, and actions to be taken by, operating personnel to initiate and supervise response actions pending the arrival of the Qualified Individual or other response resources identified in the response plan	Section 2, Section 4.6, Appendix B
• Qualified Individual's responsibilities and authority, including notification of the response resources identified in the response plan	Section 4.5
• Procedures for coordinating the actions of the operator or Qualified Individual with the action of the OSC responsible for monitoring or directing those actions	Section 4.5, Section 4.6
• Oil spill response organizations (OSRO) available through contract or other approved means, to respond to a worst case discharge to the maximum extent practicable	Appendix B

• For each organization identified under paragraph (d), a listing of:
  • Equipment and supplies available
  • Trained personnel necessary to continue operation of the equipment and staff the oil spill removal organization for the first seven days of the response
	Appendix B

FIGURE E-4 - DOT / PHMSA CROSS-REFERENCE

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
List of Contacts	
• List of persons the Plan requires the operator to contact	Figure 3.1-1
• Qualified individuals for the operator's areas of operation	Figure 1-2, Figure 3.1-5
• Applicable insurance representatives or surveyors for the operator's areas of operation	Figure 3.1-5, Figure 3.1-6
• Persons or organizations to notify for activation of response resources	Figure 3.1-1, Figure 3.1-5, Figure 3.1-6
Training Procedures	
• Description of training procedures and programs of the operations	Appendix A.2
Drill Procedures	
• Announced and unannounced drills	Appendix A.1

• Types of drills and their frequencies; for example:
  • Manned pipeline emergency procedures and qualified individual notification drills conducted quarterly
  • Drills involving emergency actions by assigned operating or maintenance personnel and notification of qualified individual on pipeline facilities which are normally unmanned, conducted quarterly
  • Shore-based spill management team (SMT) tabletop drills conducted yearly
  • Oil spill removal organization field equipment deployment drills conducted yearly
  • A drill that exercises entire response plan for each Response Zone, would be conducted at least once every three years
	Appendix A.1

Response Plan review and update procedures	
• Procedures to meet §194.121	Section 1.2
• Procedures to review plan after a worst case discharge and to evaluate and record the plan's effectiveness	Section 1.2, Section 8
Response zone appendices	
Each response zone appendix would provide the following information:	
• Name and telephone number of the qualified individual	Figure 1-2, Figure 3.1-5
• Notification procedures	Section 3
• Spill detection and mitigation procedures	Section 2.1.1, Appendix D.3
• Name, address, and telephone number of oil spill response organization	Figure 3.1-4, Appendix B

• Response activities and response resources including:
  • Equipment and supplies necessary to meet §194.115
  • Trained personnel necessary to sustain operation of the equipment and to staff the oil spill response organization and spill management team for the first seven days of the response
	Appendix A, Appendix B

FIGURE E-4 - DOT / PHMSA CROSS-REFERENCE

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
• Names and telephone numbers of federal, state, and local agencies which the operator expects to assume pollution response responsibilities	Figure 3.1-6
• Worst case discharge volume	Appendix D
• Method used to determine the worst case discharge volume, with calculations	Appendix D.6, Appendix D.7

• A map that clearly shows:
  • Location of worst case discharge
  • Distance between each line section in the Response Zone:
  • Each potentially affected public drinking water intake, lake, river, and stream within a radius of five miles of the line section
  • Each potentially affected environmentally sensitive area within a radius of one mile of the line section
	Figure 1-3, Figure 1-5, Section 6.7, Section 6.11

• Piping diagram and plan-profile drawing of each line section; may be kept separate from the response plan if the location is identified	Figure 1-2

• For every oil transported by each pipeline in the response zone, emergency response data that:
  • Include name, description, physical and chemical characteristics, health and safety hazards, and initial spill-handling and firefighting methods
  • Meet 29 CFR 1910.1200 or 49 CFR 172.602
	Section 2.1, Section 2.7, Figure D.8-1

FIGURE E-5 - OREGON CROSS-REFERENCE

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140)	LOCATION
Plan Content Requirements	
(1) Submittal Agreement. Each plan must contain a submittal agreement that:	
(a) Includes the name, address and phone number of the submitting party;	Figure 1-2
(b) Verifies acceptance of the plan, including any incorporated contingency plans, by the owner or operator of the facility or covered vessel by either signature of the owner or operator or a person with authority to bind the corporation that owns or operates the facility or covered vessel;	Section 1.4
(c) Commits to execution of the plan, including any incorporated contingency plans, by the owner or operator of the facility or covered vessel, and verifies authority for the plan holder to make appropriate expenditures in order to execute plan provisions; and	Section 1.4
(d) Includes:	
(A) In the case of a facility, the name, location including latitude, longitude and river mile, and address of the facility, type of facility, starting date of operations, types of oils (see definition of oil) handled, volume of oil stored and maximum volume of oil capable of being stored.	Figure 1-2
(B) In the case of a covered vessel, the vessel's name, the name, location and address of the owner or operator, official identification code or call sign, country of registry, common ports of call in Oregon, type of oils (see definition of oil) handled, volume of oil transported as fuel and expected period of operation in state waters.	N/A
(C) In the case of a covered vessel enrolled in a cooperative or maritime association plan, the vessel may provide evidence of coverage in lieu of paragraph (B) of this subsection.	N/A
(2) Amendments. Each plan must include a log sheet to record amendments to the plan. The log sheet must be placed at the front of the plan. The log sheet must provide for a record of the section amended, the date that the old section was replaced with the amended section, verification that the Department was notified of the amendment pursuant to OAR 340-141-0220(3) and the initials of the individual making the change. A description of the amendment and its purpose must also be included in the log sheet, or filed in the form of an amendment letter immediately after the log sheet.	Record of Amendments
(3) Table of Contents. Each plan must include a detailed table of contents based on chapter, section, appendix numbers and titles and tables and figures. If the plan is an integrated plan used to also satisfy USCG and USEPA requirements, a cross reference must be included.	Table of Contents
(4) Purpose and Scope. Each plan must describe the purpose and scope of that plan, including:	Section 1.1
(a) The region of operation covered by the plan;	Figure 1-2
(b) The onshore facility, offshore facility or covered vessel operations covered by the plan; and	Section 1
(c) The size and type of the average most probable spill and the worst case spill from the facility or covered vessel.	Appendix D.5

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(5) Updates. Each plan must describe the events or time periods that will trigger updates of the plan.	Section 1.2
(6) Implementation Strategy. Each plan must present a strategy for ensuring use of the plan for spill response and cleanup operations as required by OAR 340-141-0210.	Figure 1-1; Figure 1-2; Section 1.4; Emergency Response Action Plan
(7) Spill Response System. Each plan must describe the organization of the spill response system, including all task assignments anticipated by the end of the first full operational period, or necessary to manage the resources required by the 12 hour planning standard, given a response to an Average Most Probable Discharge. Plans must use a National Incident Management System (NIMS) incident management system, as described in the Northwest Area Contingency Plan (NWACP).	Section 4; Section 2.1; Section 5.3.5
(8) Contractor Identification. Each plan must identify the primary response contractor and subcontractors (except equipment rentals or supply vendors) whose services are bound to the plan by a contract or other approved means:	Figure 3.1-5; Appendix B
(a) If a plan holder is a member of an oil spill response cooperative and relies on that cooperative to perform or supplement its response operations within the regions of operations covered by the plan, the plan must state the cooperative's name, address, phone number and response capability. The plan must also include proof of cooperative membership; or	Appendix B; Figure 3.1-5
(b) If a plan holder is not a member of an oil spill response cooperative, for each contractor, the plan must state that contractor's name, address, phone number or other means of contact at any time of the day, and response capability (e.g., land spills only). For each contractor, the plan must include a letter of intent signed by the contractor which indicates the contractor's commitment to respond within the specified time period, with personnel and equipment listed in (12) and (13) of this section. Copies of written contracts or agreements with contractors must be available for inspection, if requested by the Department.	Appendix B; Figure 3.1-5
(9) Relationship to Other Plans. Each plan must briefly describe its relation to all applicable local, state, regional and federal government spill response plans. The plan must describe how the plan holder's response organization will be integrated into the Northwest Area Contingency Plan.	Section 1.5
(10) Spill Detection. Each plan must list procedures that will be used to detect and document the presence and size of a spill, including methods which are effective during low visibility conditions. The plan must also describe the use of mechanical or electronic monitoring or alarm systems (including threshold sensitivities) used to detect oil discharges into adjacent land or water from tanks, pipes, manifolds and other transfer or storage equipment.	Section 2.1; Appendix D.3
(11) Notifications. Each plan must describe procedures that will be taken to immediately notify appropriate parties that a spill has occurred.	Section 3; Figure 2.1-2
(a) The plan holder must maintain a notification call out list that must be available for inspection upon the request of the Department, and that:	Figure 3.1-5; Figure 3.1-6

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(A) Provides a contact at any time of the day for all spill response personnel identified under section (7) of this rule, including the contact's name, position title, phone number or other means of contact for any time of the day, and an alternate contact in the event the individual is unavailable;	Figure 1-2, Figure 3.1-5
(B) Lists the name and phone number of all government agencies that must be notified in the event of an oil spill pursuant to requirements under ORS 466.635; and	Figure 3.1-6
(C) Establishes a clear order of priority for immediate notifications.	Figure 3.1-1
(b) The plan must identify a central reporting office or individual who is responsible for implementing the call out process.	Section 3
(12) Response Personnel. Each plan must describe the personnel, including contract personnel available, to respond to an oil spill, including:	Figure 3.1-5; Figure 3.1-6; Section 4
(a) A job description for each type of spill response position needed as indicated in the spill response organization scheme addressed in section (7) of this rule, or a reference to a recognized NIMS position;	Section 4
(b) The number of personnel available to perform the duties of each type of spill response position;	Figure 3.1-5; Figure 3.1-6
(A) This number must be equal to or greater than the number of persons necessary to sustain a response to the worst case spill defined in the plan.	Section 7.1; Appendix B; Figure 3.1-5; Appendix D.5.2
(B) If 24 hour operations are expected, the number of persons available to staff the ICS must be multiplied by the proposed number of operational periods (shifts).	Figure 3.1-5
(c) Arrangements for pre-positioning personnel at strategic locations that will meet criteria pursuant to OAR 340-141-0190(3)(d); and	Section 6.10
(d) The type and frequency of spill response operations and safety training that each individual in a spill response position receives to attain the level of qualification demanded by their job description.	Appendix A
(13) Equipment and spill response resources. Each plan must describe equipment and spill resources as follows:	
(a) Each plan must list all resident equipment and resident dedicated response vessels used for oil containment, recovery, removal, shoreline and adjacent lands cleanup and wildlife rescue and rehabilitation. Each plan must also list all relied upon communication tools. The Department will accept information about equipment by reference if the equipment is being provided through a primary response contractor as part of the plan. The Department may request information about the condition and date of manufacture of any listed and referenced equipment to further evaluate its applicability to the planning standards or a response.	Section 7.1.1; Section 7.1.3; Section 7.1.6; Appendix B
(b) For resident equipment and vessels listed under subsection (a) of this section that are not owned by or available exclusively to the plan holder, the plan must also estimate the extent that other contingency plans rely on the same equipment.	Appendix B

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(c) For all resident oil containment and recovery equipment, the plan also must include equipment make and model, the manufacturer's nameplate capacity of the response equipment, the EDRC (in barrels per day) and applicable design limits (e.g., maximum wave height capability, suitability for inland waters or open ocean).	Section 7.1.1
(d) Based on information described in subsection (c) of this section, the plan must state the maximum amount of oil that could be recovered per 24-hour period with the equipment used as it is designed.	Appendix D.6, Appendix D.7
(e) For purposes of determining plan adequacy under OAR 340-141-0190, and to assess realistic capabilities based on potential limitations by weather, sea state, and other variables, the Department will use the data presented in subsections (c) and (d) of this section to apply a higher efficiency factor for equipment listed in a plan if that plan holder provides adequate evidence that the higher efficiency factor is warranted for particular equipment or if the United States Coast Guard has approved a higher efficiency rating.	Section 7.1; Appendix B
(f) The plan must provide arrangements for pre-positioning of oil spill response equipment at strategic locations that will meet response time criteria pursuant to OAR 340-141-0190(3)(d).	Section 6.10, Section 7.1; Appendix B
(g) When calculating the delivery time of equipment to a spill staging area, the plan must use travel speeds consistent with federal speed predictions for the equipment being moved.	Figure 7.1-1
(14) Communications. Each plan must describe the communication systems used for spill notification and response operations, including:	Section 7.1.6
(a) Communication procedures that identify who will be responsible for the function, to whom and from whom communication will be established and any special instructions;	Section 3.1; Section 7.1.6
(b) The communication function (e.g., ground-to-air) assigned to each channel or frequency used;	Section 5.3.6; Section 7.1.6
(c) The maximum geographic range for each type of communications equipment used; and	Section 5.3.6
(d) The communication system compatibility with key spill response agencies.	Section 7.1.6
(15) Response Operation Sites. Each plan must describe the process used by the plan holder to establish sites needed for spill response operations, including location or location selection criteria for an incident command post, a communications center if located away from the command post and equipment and personnel staging areas.	Section 7.1
(16) Response Flow Chart or Timeline. Each plan must describe the response process by:	
(a) Presenting a flowchart or decision tree describing the procession of each major stage of spill response operations from spill discovery to completion of cleanup. The flowchart or decision tree must describe the general order and priority in which key spill response activities are performed; and	Figure 2.1-1

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(b) Describing all key spill response operations in checklist forms, to be used by spill response managers in the event of an oil spill.	Section 2
(17) Authorities. Each plan must describe responsible authorities by:	
(a) Listing the local, state and other government authorities responsible for the emergency procedures peripheral to spill containment and cleanup; and	Figure 3.1-6
(b) Describing the plan holder's role in these emergency operation procedures before the proper authorities arrive, including but not limited to, control of fires and explosions, rescue activities, access restriction to the spill impact area and site security.	Section 2
(18) Damage Control. Each plan must describe equipment and procedures to be used by the facility or covered vessel personnel to minimize the magnitude of the spill and minimize structural damage that could increase the quantity of oil spilled.	Figure 2.1-3
(a) For facilities, damage control procedures must include methods to slow or stop pipeline, storage tank, and other leaks, and methods to achieve immediate emergency shutdown.	Figure 2.1-3
(b) For tank vessels, damage control procedures must include methods and onboard equipment to achieve vessel stability and prevent further vessel damage, slow or stop pipe, tank, and other leaks and achieve emergency shutdown during oil transfer.	N/A
(c) For other covered vessels, damage control procedures must address methods to achieve vessel stability and slow or stop leaks from fuel tanks and lines.	N/A
(19) Containment. Each plan must describe, in detail, any nonstandard methods specific to the plan to contain spilled oil and recover it from the environment. When a plan calls for the use of methods that have not been expressly approved by the Department, the description of the proposed options must include:	
(a) The surveillance methods expected to be used to detect and track the extent and movement of the spill; and	Section 2.1.2
(b) A description of methods to be used to contain and remove oil that will be effective for environmentally sensitive locations included in the Zone, or Zones, for which the plan is written.	Section 6
(20) Response Time. Each plan must briefly describe initial equipment and personnel deployment activities that will accomplish the response standard listed in OAR 340-141-0190(e)(d) and provide:	
(a) An estimate of the actual execution time;	Section 7.1; Appendix B
(b) The specific location in the Zone where the resident required response equipment is stored; and	Section 7.1.1; Appendix B
(c) The source and management of personnel to deploy the initial response equipment.	Figure 2.1-2; Figure 3.1-5; Section 4
(21) Chemical Agents. If the plan holder proposes to use dispersants, coagulants, bioremediants or other chemical agents for response operations under certain conditions, the plan must describe:	

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(a) Type and toxicity of chemicals, supplemented with material safety data sheets (MSDS) for each product;	Section 5.7, Section 5.8, Section 6.4
(b) The conditions under which the chemicals will be applied, in conformance with all applicable local, state and federal requirements, including the Northwest Area Contingency plan and OAR 340-141-0020;	Section 5.7; Section 5.8, Section 6.4; Figure 6.3-2
(c) Methods of deployment; and	Section 5.7; Figure 6.3-2; Section 6.4
(d) Location and accessibility of supplies and deployment equipment.	Section 7.1; Appendix B
(22) In Situ-Burning. If the plan holder proposes to use in-situ burning for response operations, the plan must describe:	
(a) Type of burning operations;	Section 5.9; Section 6.4.3
(b) Conditions under which burning will be applied in conformance with all applicable local, state and federal requirements, including the Northwest Area Contingency plan and OAR 340-264-0030 to 0040;	Section 5.9; Section 6.4.3; Section 7.4.3
(c) Methods of application; and	Section 5.9; Section 6.4.3
(d) Location and accessibility of supplies and deployment equipment.	Section 7.1; Appendix B
(23) Environmental Protection. Each plan must describe how environmental protection will be achieved, including:	
(a) Protection of sensitive shoreline and island habitat by diverting or blocking oil movement;	Section 6.2
(b) Priorities for sensitive area protection in the region of operation covered by the plan as provided in a Geographic Response Strategy of the Northwest Area Contingency Plan, or designated by the Department;	Section 6
(c) Rescue and rehabilitation of birds, marine mammals and other wildlife contaminated or otherwise affected by the oil spill; and	Section 6.5
(d) Measures taken to reduce damages to the environment caused by shoreline and adjacent land cleanup operations.	Section 6.3
(24) Interim Storage. Each plan that has identified that oil will be recovered must plan for the storage of the oil and combined oily waste material potentially created.	Section 7.4
(a) Each plan must describe site criteria and methods used for interim storage of oil recovered and oily wastes generated during response and cleanup operations, including sites available within the facility. Interim storage methods and sites must be designed to prevent contamination of the storage area by recovered oil and oily wastes.	Section 7.4
(b) If use of interim storage sites will require approval by local, state or federal officials, the plan must include information that could expedite the approval process, including a list of appropriate contacts and a brief description of procedures to follow for each applicable approval process.	Section 5.6
(c) Interim storage and permanent disposal methods and sites must be sufficient to sustain support for oil recovery operations and manage the entire volume of oil recovered and oily wastes generated.	Section 7.4

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(d) Interim storage and permanent disposal methods and sites must comply with all applicable local, state and federal requirements.	Section 5.6
(25) Health and Safety. Each plan must describe procedures to protect the health and safety of oil spill response workers, and other individuals on-site. Provisions for training, decontamination facilities, safety gear and a safety officer position must be addressed.	Section 5.4
(26) Post Spill Review. Each plan must explain post-spill review procedures, including methods to review both the effectiveness of the plan and the need for plan amendments. Post-spill procedures must provide for a debriefing with the Department that will include any newly recognized need to amend the plan and list of any other lessons learned.	Section 8
(27) Drills and Exercises. All approved plans must be verified by drills and exercises. Each plan must describe the schedule and type of drills and other exercises that will be practiced to ensure readiness of the plan elements, including drills that satisfy OAR 340-141-0200 (3).	Appendix A
(a) The plan holder must test and document internal call out procedures at least once every 90 calendar days. The plan holder must retain records of these drills for at least three years and make them available for Department review upon request.	Figure A.1-2
(b) The plan holder must notify the Department of drills and exercises, at least 60 days before full deployment and tabletop drills, and 10 days prior to equipment exercises. Prior notice to the Department is not required before notification drills and internal phone number verification exercises.	Figure A.1-2
(c) The plan holder must send post drill reports for all tabletop exercises or deployment drills to the Department no later than 60 days after the completion of the drill or exercise. The executive summary from a National Preparedness for Response Exercise Program (N-PREP) report may be submitted to meet this requirement when the exercise has been designed by the N-PREP staff.	Figure A.1-2
(28) Risk Variables. Each plan must list the spill risk variables within the region of operation covered by the plan, including:	
(a) Each plan for a facility must list the following:	
(A) Types, physical properties and amounts of oil handled;	Appendix D.8; Figure C-5
(B) A written description and map indicating site topography, stormwater and other drainage systems, mooring areas, pipelines, tanks, and other oil processing, storage and transfer sites and operations;	Appendix C; Section 6.11; Figure 1-2
(C) A written description of sites or operations with a history of or high potential for oil spills, including key areas that pose significant navigation risk within the region of operation covered by the plan; and	Figure C-15; Appendix D.2.1
(D) Methods to reduce spills during transfer operations, including overfill prevention.	Appendix D; Section 7.4.2
(b) Each plan for a covered vessel must list the following:	N/A

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(A) Types, physical properties and amounts of oil handled;	N/A
(B) A written description and diagram showing cargo, fuel and ballast tanks; and piping, power plants and other oil storage and transfer sites and operations; and	N/A
(C) A written description of operations with a history of or high potential for oil spills, including key areas that pose significant navigation risks within the region of operation covered by the plan.	N/A
(29) Environmental Variables. Each plan must list the environmental variables within the region of operation covered by the plan. Facility plans required to include river or coastal areas must identify the environmental variables from the probable point of release to the point the oil could travel in 24 hours in a current of four knots. Vessel contingency plans must encompass the entire length of the Oregon waterway in the Zone or sub-Zone entered. All plans must describe:	Section 6.7, Section 6.11
(a) Natural resources, including coastal and aquatic habitat types and sensitivity by season, breeding sites, presence of state or federally listed endangered or threatened species and presence of commercial and recreational species;	Section 6
(b) Public resources, including public beaches, water intakes, drinking water supplies and marinas;	Section 6
(c) Seasonal hydrographic and climatic conditions; and	Section 6.1.1
(d) Physical geographic features, including relative isolation of coastal regions, beach types, and other geological characteristics. Plans may reference numbered Geographic Response Plan strategies (GRPs) in the Northwest Area Contingency Plan when identifying individual environmental features.	Section 6.1.2
(30) Logistical Resources. Each plan must list the logistical resources within the region of operation covered by the plan, including facilities for fire services, medical services and accommodations; and shoreline access areas, including boat launches.	Figure 3.1-6; Section 6.9
(31) Response Strategy Outline. Each plan must include a statement of the intended response activities. This statement must describe how the plan resources must be applied to adequately respond during the initial phase of the response to an average most probable and worst case spill, release or discharge. The Response Strategy Outline must begin with a description of the situation to be managed, and must describe:	Appendix D.5
(a) Deployment of resources and estimates of response times;	Appendix D.5
(b) The intended result of the activity for each person listed in section (7) and (12) of this section;	Appendix D.5
(c) Command and control arrangements;	Appendix D.5
(d) Required coordination; and	Appendix D.5

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0140), CONTINUED	LOCATION
(e) Probable obstacles and an estimate of oil movement during the first 72 hours.	Appendix D.4; Appendix D.5; Appendix D.7
(33) Technical Terms Glossary. Each plan must include a glossary of technical terms and abbreviations used in the plan.	Appendix F
Stat. Auth.: ORS 468.020 & 468B.395	
Stats. Implemented: ORS 468B.345 - 468B.390	
Hist.: DEQ 2-2003, f. & cert. ef. 1-31-03; DEQ 8-2005, f. & cert. ef. 7-14-05	

FIGURE E-6 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0160)	LOCATION
Prevention Strategies for Facilities	
(1) The owner or operator of each onshore and offshore facility must develop spill prevention strategies that will, when implemented, provide the best achievable protection from damages caused by the discharge of oil into the waters of the state. The strategies may be in the form of:	
(a) Appendices to oil spill prevention and emergency response plans required under this chapter; or	
(b) A stand alone prevention plan that meets all requirements of OAR 340-141-0100 to 340-141-0230.	Appendix C
(2) Spill Prevention Countermeasure and Control Plans (SPCC), Operation Manuals and other prevention documents prepared to meet federal requirements under 33 CFR 154, 33 CFR 156, 40 CFR 109, 40 CFR 112, or the Federal Oil Pollution Act of 1990 or plans prepared to meet the requirements of other states may be submitted to satisfy requirements under this chapter if the Department deems that such requirements equal or exceed those of the Department, or if the plans are modified or appended to satisfy requirements of this Division.	Appendix C
(3) Spill prevention strategies must at a minimum provide all of the following:	
(a) Documentation of types and frequency of spill prevention training provided to applicable personnel;	Figure A.2-3
(b) Evidence that the facility has an operations manual;	Figure C-4
(c) A description of a drug and alcohol awareness program that provides training and information materials to all employees on recognition of alcohol and drug abuse treatment opportunities, and applicable company policies;	Appendix A.3
(d) Evidence of a maintenance and inspection program that includes:	
(A) Summary of the frequency and type of all regularly scheduled inspection and preventative maintenance procedures for tanks, pipelines, key storage, transfer, or production equipment including associated pumps, valves, and flanges, and overpressure safety devices and other spill prevention equipment;	Figure C-4; Figure C-12
(B) Description of integrity testing of storage tanks and pipelines using such techniques as hydrostatic testing and visual inspection, including but not limited to the frequency of tests, means of identifying that a leak has occurred and measures to reduce spill risk if test material is product;	Figure C-4; Figure C-12
(C) External and internal corrosion detection and repair;	Figure C-4; Figure C-12
(D) Damage criteria for equipment repair or replacement;	Figure C-4; Figure C-12
(E) Maintenance and inspection records of the storage and transfer facilities and related equipment will be made available to the Department upon request; and	Figure C-4; Figure C-12; Figure C-13
(F) Documentation required under 40 CFR 112.7(e) or 33 CFR 154, Subparts C and D may be used to address elements of this subsection.	

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0160), CONTINUED	LOCATION
(e) A description of the use of containment boom at facilities transferring persistent oil, including:	
(A) Type(s) of boom used based upon the varied conditions within the region(s) of operation; and	Section 7.1.1; Figure 7.1-1; Section 6.2
(B) Methods of boom placement and anchoring.	Section 6.2
(f) Identification of spill prevention technology currently in use, including if applicable:	
(A) Tank and pipeline materials and design;	Figure C-4
(B) Storage tank overflow alarms, tank overflow cutoff switches, low level alarms and automatic transfer shutdown systems, including methods to alert operators, system accuracy and tank fill margin remaining at time of alarm activation before overflow would occur at maximum pumping rate (documentation required under 40 CFR 112.7(e)(2)(viii) or 33 CFR 154.310(a) (12-13) may be used to address some or all of these elements);	Figure C-4
(C) Leak detection systems for both active and nonactive pipeline conditions including detection thresholds in terms of duration and percentage of pipeline flow limitations on system performance due to normal pipeline events, and procedures for operator response to leak alarms (documentation required under 40 CFR 112.7(e)(3) may be used to address some or all of these elements);	Figure C-4
(D) Rapid pump and valve shutdown procedures, including means of ensuring that surge and overpressure conditions do not occur, rates of valve closure, sequence and time duration (average and maximum) for entire procedure, automatic and remote control capabilities utilized and visual displays of system status for operator use (documentation required under 40 CFR 112.7(e)(3) may be used to address some or all of these elements);	Figure 7.3-2; Appendix D.3
(E) Minimization of post-shutdown residual drainout from pipes, including criteria for locating valves, identification of all valves (including types and means of operation) that may be open during a transfer process, and any other techniques for reducing drain out;	Figure C-4
(F) Means of relieving pressure due to thermal expansion of liquid in pipes during periods of nonuse;	Figure C-4
(G) Secondary containment, including contents of the largest tank plus space for precipitation, and material design and permeability of the containment area (documentation required under 40 CFR 112.7(e)(1) and (2)(ii) - (iv) may be used to address some or all of these elements);	Figure C-5
(H) Surge control systems;	Figure C-4
(I) Internal and external corrosion control coatings or wrappings and instruments;	Figure C-4
(J) Storm water and other drainage retention, treatment and discharge systems, including maximum storage capacities and identification of any applicable discharge permits (documentation required under 40 CFR 112.7(e)(1) and (2)(iii) and (ix) may be used to address some or all of these elements); and	Figure C-4

FIGURE E-5 - OREGON CROSS-REFERENCE, CONTINUED

STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS-REFERENCE INDEX (340-141-0160), CONTINUED	LOCATION
(K) Criteria for suspension of operations while leak detection or other spill control systems are inoperative.	Figure C-4; Appendix D.3
(g) A description of facility site security systems, including:	
(A) Procedures for controlling and monitoring facility access;	Figure C-4
(B) Lighting (documentation required under 33 CFR 154.570 may be used to address some or all of this element);	Figure C-4
(C) Signage; and	Figure C-4
(D) Right-of-way identification or other measures to prevent third party damage (documentation required under 40 CFR 122.7(e)(3)(v) and (9) may be used to address some or all of this element).	Figure C-4
(h) History of any discharges of oil to the land or waters of the state in excess of 25 barrels (1,050 gallons) which occurred during the five-year period prior to the plan submittal date. For each discharge, describe:	Figure C-15
(A) Quantity;	Figure C-15
(B) Type of oil;	Figure C-15
(C) Geographic area;	Figure C-15
(D) Analysis of cause, including source(s) of discharged oil and contributing factors (e.g., equipment failure, employee error, adverse weather, etc.); and	Figure C-15
(E) Measures taken to remedy the cause and prevent reoccurrence.	Figure C-15
(i) A detailed and comprehensive site risk analysis that:	Appendix D.2.2
(A) Evaluates the construction, age, corrosion, inspection and maintenance, operation and oil spill risk of the transfer, production and storage system including piping, tanks, pumps, valves and associated equipment;	Appendix D.2.2
(B) Evaluates spill minimization and containment systems;	Appendix D.2.2
(C) Incorporates information required in subsection (f) of this section;	Appendix D.2.2
(D) Is prepared under the supervision of (and bears the seal of) a licensed professional engineer; and	Figure C-1
(E) Includes documentation required under 40 CFR 112.7(b) and (e) may be used to address some or all of the elements in this subsection.	Appendix C, Figure C-5
(j) A description of how the facility will incorporate those measures that will provide best achievable protection to address the spill risks identified in the risk analyses required in subsection (i) of this section. (Information documented pursuant to 40 CFR 112.7(e) and 33 CFR 154.310 may be used to address some or all of the elements of this subsection.)	Section 2; Appendix A ; Figure C-4; Appendix D.2.2
[Publications: Publications referenced are available from the agency.]	
Stat. Auth.: ORS 468.020, ORS 468B.395 Stats. Implemented: ORS 468B.345 - ORS 468B.390 Hist.: DEQ 2-2003, f. & cert. ef. 1-31-03	

FIGURE E-6 - OSHA CROSS-REFERENCE

EAP REQUIREMENTS (29 CFR 1910.38)	LOCATION
(a) Application. An employer must have an emergency action plan whenever an OSHA standard in this part requires one. The requirements in this section apply to each such emergency action plan.	
(b) Written and oral emergency action plans. An emergency action plan must be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.	
(c) Minimum elements of an emergency action plan. An emergency action plan must include at a minimum:	
(1) Procedures for reporting a fire or other emergency;	Section 2, Section 3
(2) Procedures for emergency evacuation, including type of evacuation and exit route assignments;	Section 2.2, Figure C-8
(3) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;	N/A
(4) Procedures to account for all employees after evacuation;	Section 2.2
(5) Procedures to be followed by employees performing rescue or medical duties; and	Section 2.5
(6) The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.	Figure 3.1-5, Section 4
(d) Employee alarm system. An employer must have and maintain an employee alarm system. The employee alarm system must use a distinctive signal for each purpose and comply with the requirements in §1910.165.	Section 2.2
(e) Training. An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.	Appendix A
(f) Review of emergency action plan. An employer must review the emergency action plan with each employee covered by the plan:	Appendix A.2
(1) When the plan is developed or the employee is assigned initially to a job;	Appendix A.2
(2) When the employee's responsibilities under the plan change; and	Appendix A.2
(3) When the plan is changed.	Appendix A.2

FIGURE E-6 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q] [2])	LOCATION
(q) Emergency response to hazardous substance releases. This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.	
(1) Emergency response plan. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with 29 CFR 1910.38.	
(2) Elements of an emergency response plan. The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following to the extent that they are not addressed elsewhere:	
(i) Pre-emergency planning and coordination with outside parties.	Section 3, Appendix C, Appendix D
(ii) Personnel roles, lines of authority, training, and communication.	Section 3, Section 4, Section 7.1.6, Appendix A.2
(iii) Emergency recognition and prevention.	Appendix C, Appendix D.3
(iv) Safe distances and places of refuge.	Section 2.2
(v) Site security and control.	Section 5.7, Section 7.3
(vi) Evacuation routes and procedures.	Section 2.2, Figure C-8
(vii) Decontamination.	Section 5.5
(viii) Emergency medical treatment and first aid.	Section 2.5
(ix) Emergency alerting and response procedures.	Section 2
(x) Critique of response and follow-up.	Section 8
(xi) PPE and emergency equipment.	Section 7.1.1, Figure 7.1-1
(xii) Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.	

FIGURE E-7 - EPA RESPONSE PLAN COVER SHEET

Owner/ operator of facility:	Shore Terminals LLC
Owner/ operator address / phone (street address or route):	19003 IH-10 West San Antonio, TX 78257 (210) 918-5566 (Fax) (210) 918-2000 (Phone)
Facility name:	Portland Terminal
Facility address (street address or route):	9420 N.W. St. Helens Road
City, state, and U.S. zip code	Portland, OR 97231
Facility mailing address:	As above
Facility phone number:	(503) 286-6732 - Jeff Hibner
Latitude:	45 ° 35 ' 19.7 " N
Longitude:	122 ° 46 ' 23.2 " W
Facility acres:	
Facility startup date:	1979
Dun & Bradstreet number:	037270415
Largest Aboveground Oil Storage Tank Capacity (gallons):	4,200,000
Number of aboveground oil storage tanks:	39 (including additive tanks)
North American Industrial Classification System (NAICS):	493190
Maximum oil storage capacity (gallons):	53,326,003
Worst case oil discharge amount (gals.):	4,200,000
Number of Underground Storage Tanks:	0
Total Underground Storage Tanks (gallons):	0
Total Storage of Drums (gallons):	0
Total Storage of Transformers that Contain Oil (gallons):	180
Number of Surface Impoundments:	0
Total Storage of Surface Impoundments (gallons):	0
Name of Protected Waterway or Environmentally Sensitive Area:	Williamette River
Facility distance to navigable water; mark the appropriate line.	
0-1/4 ☒ 1/4-1/2 mile ☐	1/2 - 1 mile ☐ > 1 mile ☐

Applicability of Substantial Harm

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA	
Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?	
YES ☒ NO ☐	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and, within any storage area, does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?	
YES ☐ NO ☒	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and is the facility located at a distance (as calculated using the appropriate formula in or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	
YES ☒ NO ☐	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and is the facility located at a distance (using the appropriate formula in or a comparable formula) such that a discharge from the facility would shut down a drinking water intake?	
YES ☐ NO ☒	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last five years?	
YES ☐ NO ☒	
CERTIFICATION	
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.	
Signature:	Date: 3/9/2022
Name: Ryan Groesbeck	Title: Terminal Manager

APPENDIX F
ACRONYMS AND DEFINITIONS

Last Revised: August 2014

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F.1 Acronyms

F.2 Definitions

F.1 ACRONYMS

ABBREVIATION	TERM
ACP	Area Contingency Plan
AFFF	Aqueous Film Forming Foam
ASTM	American Society of Testing Materials
BBL	Barrel(s)
BLM	Bureau of Land Management (USDOI)
BPD	Barrels Per Hour
BPH	Barrels Per Hour
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act of 1980,
CFR	Code of Federal Regulations
CO2	Carbon Dioxide
COTP	Captain of the Port (USCG)
CRZ	Contamination Reduction Zone
CWA	Clean Water Act of 1977 (Federal)
EAP	Emergency Action Plan
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERAP	Emergency Response Action Plan
ERP	Emergency Response Plan
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan
FRT	Facility Response Team
FWPCA	Federal Water Pollution Control Act of 1972
GIS	Geographic Information System
GPM	Gallons Per Minute
HAZMAT	Hazardous Materials
HMIS	Hazardous Material Information System
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
JIC	Joint Information Center
LEL	Lower Explosive Limit

F.1 ACRONYMS, CONTINUED

ABBREVIATION	TERM
LEPC	Local Emergency Planning Committee
LEPD	Local Emergency Planning District
LNG	Liquid Natural Gas
LPG	Liquefied Petroleum Gas
MTR	Marine Transportation Regulated
N/A	Not Applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIMS	National Incident Management System
NM	Nautical Miles
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
NRDA	National Resource Damage Assessment
NRT	National Response Team
OBA	Oxygen Breathing Apparatus
OPA 90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator/Commander
OSHA	Occupational Safety and Health Administration (USDL)
PHMSA	Pipeline and Hazardous Materials Safety Administration (DOT)
PPE	Personal Protective Equipment
PREP	(National) Preparedness for Response Exercise Program
QI	Qualified Individual
RCRA	Resource Conservation and Recovery Act of 1976
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
SCADA	Supervisory Control and Data Acquisition (System)
SCBA	Self Contained Breathing Apparatus
SDS	Safety Data Sheets
SDWA	Safe Drinking Water Act of 1986
SERC	State Emergency Response Commission
SETS	Safety Environment and Training Services
SI	Surface Impoundment
SIC	Standard Industrial Classification (Code)
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention, Control, and Countermeasures (Plan)
SSC	Scientific Support Coordinator (NOAA)

F.1 ACRONYMS, CONTINUED

ABBREVIATION	TERM
UCS	Unified Command System
UEL	Upper Explosive Limit
USACOE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDL	U.S. Department of Labor
USDOD	U.S. Department of Defense
USDOE	U.S. Department of Energy
USDOI	U.S. Department of the Interior
USDOJ	U.S. Department of Justice
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service (USDOI)
USGS	U.S. Geological Survey (USDOI)

F.2 DEFINITIONS

TERM	DEFINITION
Adverse Weather	The weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height, ice, temperature, weather-related visibility, and currents with the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.
Aqueous Film Forming Foam	A fluoro-carbon surfactant that acts as an effective vapor securing agent due to its effect on the surface tension of the water. Its physical properties enable it to float and spread across surfaces of a hydrocarbon fuel with more density than protein foam.
Average Most Probable Discharge (USCG)	A discharge of the lesser of 50 barrels (2100 gallons) or one percent of the volume of the worst case discharge.
Barrel	Measure of space occupied by 42 U. S. gallons at 60 degrees Fahrenheit.
Bleve	A boiling liquid-expanding vapor explosion; failure of a liquefied flammable gas container caused by fire exposure. Pronounced "blevey."
Boilover	Occurs when the heat from a fire in a tank travels down to the bottom of the tank causing water that is already there to boil and push part of the tank's contents over the side.
Carbon Dioxide	A heavy, colorless, odorless, asphyxiating gas, that does not normally support combustion. It is one and one-half times heavier than air and when directed at the base of a fire its action is to dilute the fuel vapors to a lean mixture to extinguish the fire.
Class A Fire	A fire involving common combustible materials which can be extinguished by the use of water or water solutions. Materials in this category include wood and wood-based materials, cloth, paper, rubber and certain plastics.
Class B Fire	A fire involving flammable or combustible liquids, flammable gases, greases and similar products. Extinguishment is accomplished by cutting off the supply of oxygen to the fire or by preventing flammable vapors from being given off.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Class C Fire	A fire involving energized electrical equipment, conductors or appliances. Nonconducting extinguishing agents must be used for the protection of firefighters.
Class D Fire	A fire involving combustible metals, for example, sodium, potassium, magnesium, titanium and aluminum. Extinguishment is accomplished through the use of heat-absorbing extinguishing agents such as certain dry powders that do not react with the burning metals.
Cold (Support) Zone	An area free of contaminants so that Personal Protection Equipment (PPE) is not required for personnel working in this area. Command functions and supporting operations are carried out here.
Command Post	A site located at a safe distance from the spill site where response decisions are made, equipment and manpower deployed, and communications handled. The Incident Commander and the On-Scene Coordinators may direct the on-scene response from this location.
Communication Equipment	Equipment that will be utilized during response operations to maintain communication between employees, contractors, federal/state/local agencies.
Containment Boom	A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.
Contamination Reduction Zone	Same as the warm zone, a buffer between the hot and cold zones. Decontamination activities take place there. Equipment needed to support the primary response operation may be staged in the warm zone.
Contingency Plan	A document used by: (1) federal, state, and local agencies to guide planning and response procedures regarding spill of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.

Contract or Other Approved Means	Includes:
	• A written contractual agreement with a response contractor. The agreement should identify and ensure the availability of the specified personnel and equipment described under U.S.C.G. Regulations within stipulated response times in the specified geographic areas
	• Certification by the facility owner or operator that the specified personnel and equipment described under USCG Regulations are owned, operated, or under the direct control of the facility owner or operator, and are available within stipulated times in the specified geographic areas
	• Active membership in a local or regional oil spill removal organization that has identified specified personnel and equipment described under USCG Regulations that are available to respond to a discharge within stipulated times in the specified geographic areas
	• A document which:
	  • Identifies the personnel, equipment, services, capable of being provided by the response contractor within stipulated response times in specified geographic areas
	  • Sets out the parties' acknowledgment that the response contractor intends to commit the resources in the event of a response
	  • Permits the Coast Guard to verify the availability of the response resources identified through tests, inspections, drills
	  • Is incorporated by reference in the Response Plan
	• For a facility that could reasonably be expected to cause substantial harm to the environment, with the consent of the response contractor or oil spill removal organization, the identification of a response contractor or oil spill removal organization with specified equipment and personnel which are available within stipulated response times in specific geographic areas.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Demand Breathing Apparatus	A type of self-contained breathing apparatus that provides air or oxygen from a supply carried by the user.
Dispersants	Those chemical agents that emulsify, disperse, or solublize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.
Diversion Boom	A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert the product towards a pick up point, or away from certain areas.
Environmentally Sensitive Areas	Streams and water bodies, aquifer recharge zones, springs, wetlands, agricultural areas, bird rookeries, endangered or threatened species (flora and fauna) habitat, wildlife preserves or conservation areas, parks, beaches, dunes, or any other area protected or managed for its natural resource value.
Exclusion Zone	Same as hot zone, the area where a hazard exists. This is the hazardous location on site, therefore entry requires personal protective equipment (PPE). It must be big enough for both mitigation activities and protection of personnel in the warm zone should an explosion, fire, change of wind direction, or an unexpected release occur during response activities
Explosive Range	Flammable range; the range of the mixture of air and flammable gas or flammable vapor of liquids that must be present in the proper proportions for the mixture to be ignited. The range has upper and lower limits; any mixture above the upper explosive limit or below the lower explosive limit will not burn.
Facility	Any pipeline, structure, equipment, or device used for handling oil including, but not limited to, underground and aboveground storage tanks, impoundments, mobile or portable drilling or workover rigs, barge mounted drilling or workover rigs, and portable fueling facilities located offshore or on or adjacent to coastal waters or any place where a discharge of oil from the facility could enter coastal waters or threaten to enter the coastal waters.
Federal Fund	The oil spill liability trust fund established under OPA.
First Responders, First Response Agency	A public health or safety agency (i.e., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Flash Point	The temperature at which a liquid fuel gives off sufficient vapor to form an ignitable mixture near its surface.
Flashover	The ignition of combustibles in an area heated by convection, radiation, or a combination of the two. The action may be a sudden ignition in a particular location followed by rapid spread or a "flash" of the entire area.
Foam	A blanket of bubbles that extinguishes fire mainly by smothering. The blanket prevents flammable vapors from leaving the surface of the fire and prevents oxygen from reaching the fuel. The water in the foam also has a cooling effect.
Hazardous Material	Any nonradioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.
Hazardous Substance	Any substance designed as such by the Administrator of EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to Section 311 of the Federal Water Pollution Control Act.
Hazardous Waste	Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resources Conservation and Recovery Act (RCRA), 42 U.S.C., Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations, Part 261, Subparts C and D respectively.
Higher Volume Port Area	Ports of: • Boston, MA • New York, NY • Delaware Bay and River to Philadelphia, PA • St. Croix, VI • Pascagoula, MS • Mississippi River from Southwest Pass, LA to Baton Rouge, LA • Louisiana Offshore Oil Port (LOOP), LA • Lake Charles, LA • Sabine-Nachez River, TX • Galveston Bay and Houston Ship Channel, TX • Corpus Christi, TX • Los Angeles/Long Beach Harbor, CA • San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay to Antioch, CA • Straits of Juan de Fuca and Puget Sound, WA • Prince William Sound, AK
Hot (Exclusion) Zone	The area where a hazard exists. This is the hazardous location on site, therefore entry requires personal protective equipment (PPE). It must be big enough for both mitigation activities and protection of personnel in the warm zone should an explosion, fire, change of wind direction, or an unexpected release occur during response activities.
Hyperthermia	A dangerously high fever that can damage nerve centers. This condition can result from exposure to excessive heat over an extended period of time.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Ignition Temperature	The lowest temperature at which a fuel will burn without continued application of an ignition source.
Incident Command System	A method by which the response to an extraordinary event, including a spill, is categorized into functional components and responsibility for each component assigned to the appropriate individual or agency.
Incident Commander (IC)	The one individual in charge at any given time of an incident. The Incident Commander will be responsible for establishing a unified command with all on-scene coordinators.
Incident Management Team	The onsite personnel identified to provide initial response, staff the organizational structure identified in a response plan, and to manage response plan implementation.
Interim Storage Site	A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges, and other vehicles, used to store waste until the transport begins.
Lead Agency	The government agency that assumes the lead for directing the spill response.
Lead Federal Agency	The agency which coordinates the federal response to incidents on navigable waters. The lead Federal agencies are: • **U. S. Coast Guard (USCG):** Oil and chemically hazardous materials incidents on navigable waters • **Environmental Protection Agency (EPA):** Oil and chemically hazardous materials incidents on most inland waters and in the inland zone
Lead State Agency	The agency which coordinates state support to Federal and/or Local governments or assumes the lead in the absence of a Federal spill response.
Lower Flammable Limit	Minimum flammable concentration of a particular gas in the air.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Marine Transportation-Related Facility (MTR Facility)	An onshore facility, including piping and any structure used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR Part 150.
Maximum Extent Practicable	The planning values derived from the planning criteria used to evaluate the response resources described in the response plan to provide the on-water recovery capability and the shoreline protection and cleanup capability to conduct response activities for a worst case discharge from a facility in adverse weather.
Maximum Most Probable Discharge (USCG)	A discharge of the lesser of 2,500 barrels or ten percent of the volume of a worst case discharge.
Medium Discharge (EPA)	Same as maximum most probable discharge.
National Contingency Plan	The plan prepared under the Federal Water Pollution Control Act (33 United States Code '1321 et seq) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 United State Code '9601 et seq), as revised from time to time.
Nearshore Area	The area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation (COLREG) lines) defined in '80.740 - 80.850 of Title 33 of the CFR.
Non-Persistent or Group I Oil	A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions: • At least 50% of which by volume, distill at a temperature of 340EC (645EF) • At least 95% of which volume, distill at a temperature of 370EC (700EF)
Non-Petroleum Oil	Oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils.
Offshore Area	The area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR Part 7 extending seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico it is the area beyond 12 nautical miles of the line of demarcation (COLREG lines) defined in '80-740 - 80.850 of Title 33 of the CFR extending seaward to 50 nautical miles.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Oil or Oils	Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil, diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR Part 302 adopted August 14, 1989, under Section 101(14) of the Federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by P.L. 99-499.
Oil Spill Removal Organization (OSRO)	An entity that provides oil spill response resources, and includes any for profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.
Operating Area	The rivers and canals, inland, nearshore, Great Lakes, or offshore geographic location(s) in which a facility is handling, storing, or transporting oil.
Operating Environment	Rivers and canals, inland, Great Lakes, or ocean. These terms are used to define the conditions in which response equipment is designed to function.
Overhaul	A procedure following a fire whereby the area is examined for hidden fire and fire extension and the fire area is cleaned up.
Owner or Operator	Any person, individual, partnership, corporation, association, governmental unit, or public or private organization of any character.
Persistent Oil	A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this Appendix, persistent oils are further classified based on specific gravity as follows: • Group II - specific gravity less than .85 • Group III - specific gravity between .85 and less than .95 • Group IV - specific gravity .95 to and including 1.0 • Group V - specific gravity greater than 1.0
PPE - Level A	Offers the highest level of respiratory, skin, eye and mucous membrane protection. Intended for IDLH or near IDLH conditions. Level A consists of the following: • Positive pressure self contained breathing apparatus (SCBA) • Fully encapsulated chemical resistant unit • Inner and outer chemical resistant gloves • Chemical resistant boots with steel toe and shank • Hard hat • Other accessories as required
PPE - Level B	Offers the highest degree of respiratory protection, but a lesser level of skin and eye protection. Level B is the minimum level recommended on initial site entries until the hazards have been further identified and defined by monitoring sampling, and other methods. Level B protection may be used where confined space entry conditions exist and existing gases or vapors are not harmful to the skin. Level B consists of the following: • Positive pressure self contained breathing apparatus (SCBA) • Chemical resistant clothing appropriate for hazard • Inner and outer chemical resistant gloves • Chemical resistant boots with steel toe and shank • Hard hat • Other accessories as required

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
PPE - Level C	May be used when the type of airborne substance is known, its concentration has been measured, and criteria for using air-purifying respirators have been met. Also, skin and eye exposure is unlikely. Level C consists of the following: • Full-face, air purifying respirator appropriate for contaminant • Chemical, fire and/or heat resistant clothing appropriate for hazard • Inner and outer chemical resistant gloves • Chemical resistant boots with steel toe and shank • Hard hat • Other accessories as required
PPE - Level D	Standard minimum level of protection required during routine operations or incidents with no known hazards. Level D consists of the following: • Flame retardant clothing • Safety glasses • Leather boots or shoes • Hard hat • Fire fighting protective clothing
Primary Response Contractor(s)	An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.
Qualified Individual(s)	An English-speaking representative(s) of the facility identified in the plan, located in the United States, available on a 24-hour basis, familiar with implementation of the facility response plan, and trained in his or her responsibilities under the plan. This person must have full written authority to implement the facility's response plan. This includes: • Activating and engaging in contracting with identified oil spill removal organization(s) • Acting as a liaison with the predesignated of Federal On-Scene Coordinator (FOCS) • Obligating, either directly or through prearranged contracts, funds required to carry out all necessary or directed response activities
Regional Response Team	The Federal Response Organization (consisting of representatives from selected Federal and State agencies) which acts as a regional body responsible for planning and preparedness before an oil spill occurs and providing advice to the FOSC in the event of a major or substantial spill. NuStar employs a Regional Response Team that is staffed with offsite responders.
Reid Vapor Pressure Method	Method used by the American Society of Testing Materials to test vapor pressure. It is a measure of the volatility, or tendency to vaporize, of a liquid.
Responsible Party	Any person, owner/operator, or facility that has control over an oil or hazardous substance immediately before entry of the oil or hazardous substance into the atmosphere or in or upon the water, surface, or subsurface land of the state.
Rivers and Canals	A body of water confined within the inland area that has a projected depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.
Skimmers	Mechanical devices used to skim the surface of the water and recover floating oil. Skimmers fall into four basic categories (suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices) which vary in efficiency depending on the type of oil and size of spill.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Slopover	An event that occurs when water is introduced into a tank of very hot liquid, causing the liquid to froth and spatter.
Small Discharge (EPA)	Same as average most probable discharge.
Sorbents	Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.
Spontaneous Ignition	A fire that occurs without a flame, spark, hot surface, or other outside source of ignition.
Staging Areas	Designated areas near the spill site accessible for gathering and deploying equipment and/or personnel.
State Emergency Response Commission (SERC)	A group of officials appointed by the Governor to implement the provisions of Title III of the Federal Superfund Amendments and Reauthorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local Emergency Response Plans.
Static Electricity	Charges of electricity accumulated on opposing and usually moving surfaces having negative and positive charges, respectively. A hazard exists where the static potential is sufficient to discharge a spark in the presence of flammable vapors or combustible dusts.
Support Zone	Same as cold zone, an area free of contaminants so that personal protection equipment (PPE) is not required for personnel working in this area. Command functions and supporting operations are carried out here.
Tornado Warning	A tornado has been sighted.

F.2 DEFINITIONS, CONTINUED

TERM	DEFINITION
Tornado Watch	Conditions are favorable for tornados to form.
Unified Command	The method by which local, state, and federal agencies will work with the Incident Commander to: • Determine their roles and responsibilities for a given incident • Determine their overall objectives for management of an incident • Select a strategy to achieve agreed upon objectives • Deploy resources to achieve agreed-upon objectives
Warm (Contamination Reduction) Zone	A buffer between the hot and cold zones. Decontamination activities take place there. Equipment needed to support the primary response operation may be staged in the warm zone.
Waste	Oil or contaminated soil, debris, and other substances removed from coastal waters and adjacent waters, shorelines, estuaries, tidal flats, beaches, or marshes in response to an unauthorized discharge. Waste means any solid, liquid, or other material intended to be disposed of or discarded and generated as a result of an unauthorized discharge of oil. Waste does not include substances intended to be recycled if they are in fact recycled within 90 days of their generation or if they are brought to a recycling facility within that time.
Wildlife Rescue	Efforts made in conjunction with federal and state agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.

APPENDIX G
ADDITIONAL INFORMATION

Last Revised: February 20, 2020

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G.1 Spill Prevention Training (West Region)

G.2 Boat Ramps - CRC List

G.3 SPCC Monthly Checklist Form

G.4 ICS Blank Forms

G.5 Initial Site Safety Assessment - WR

G.6 NuStar 2020 Health And Safety Plan (HASP)

Appendix G - Spill Prevention Training (West Coast Region)

The following job training guide are intended to be used as a tool to assist Emergency Management Team (EMT) members in their particular positions within the Incident Command System (ICS):

	Training Type		
	1	2	3
Position	29CFR 1910.120 HAZWOPER (24 hr training for 1st responder)	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI components	Qualified Individual / Incident Command Training
IC	x	x	x
QI	x	x	x
Planning Chief	x		x
Operation Chief	x	x	x
Situation Unit Leader	x		x
Information Officer			x
Liason Officer			x
Environmental Unit Leader	x		x
Safety Officer	x		x
Logistic			
Finance Section Chief			

1 - Initial 24 hr. and annual 8 hr. refresher training for all 1st responders and all personnel who may be in the field. Logistic, Information, Liaison, Finance and other non-field operation support personnel receive hazard communication awareness training with annual refresher.

2 - OPA training includes field training per responsibility and spill prevention training with annual refresher for facility responders.

3 - Initial QI/IC training for IC and QI appropriate to the level of responsiblity. All identified have annual Incident Command System refresher training.

Boat Ramps - CRC 2015 -

Portland Shore Terminal is located within the Northwest Area Contingency Plan Lower Columbia River Geographic Response Plan (LCR GRP). Shoreline accesses are reference in Chapter 5 of the LCR GRP.

ID	Waterbody	Boating Facility Name	Lat	Lon	Managed By	Link	Telephone	County
1	Columbia River	Goble Landing	46.016083	-122.874222	Private	http://www.boatoregon.com/OSMB/access/AccessPages/MultnomahCounty/ColumbiaRiverMultnomahCo.shtml	503-556-6510	Multnomah
3	Columbia River	M. James Gleason Ramp	45.60083	-122.6187	Metro	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-797-1700	Multnomah
8	Columbia River	Will-Jan Marina	45.559244	-122.474472	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-667-5187	Multnomah
10	Columbia River	Donaldson Marina	45.60266	-122.62809	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-288-6169	Multnomah
13	Columbia River	Ducks Moorage, LLC	45.55911667	-122.4713333	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-665-8348	Multnomah
18	Columbia River	Columbia Way West	45.60247	-122.6648	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-493-1163	Multnomah
22	Columbia River	Tomahawk Bay Moorage	45.604167	-122.660278	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-283-2444	Multnomah
26	Columbia River	Babeckos Marine & Yacht Broker	45.6029	-122.6316667	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-288-8381	Multnomah
27	Columbia River	McCuddy's Island Marina	45.60406	-122.66341	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-289-7879	Multnomah
28	Columbia River	Sundance Marina	45.60365	-122.6582	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-283-3216	Multnomah
29	Columbia River	Tomahawk Island Marina	45.6055	-122.658689	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-289-5511	Multnomah
31	Columbia River	Harbor 1 Marina	45.60095	-122.63168	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-249-0317	Multnomah
32	Columbia River	Lower Government Island	45.58116	-122.5046	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	800-551-6949	Multnomah
33	Columbia River	Pac Mar Marine	45.601058	-122.627606	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-288-6169	Multnomah
35	Columbia River	Big Eddy Marina	45.55799	-122.46017	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-665-3515	Multnomah
38	Columbia River	McCuddy's Marina Marine Drive	45.60081	-122.63531	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-287-3411	Multnomah
39	Columbia River	Marineland at Pier 99	45.606944	-122.685	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-286-8221	Multnomah
40	Columbia River	The Fishery	45.60769	-122.03861	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	541-374-8577	Multnomah
42	Columbia River	Bartlett Landing	45.57866667	-122.4839667	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	800-551-6949	Multnomah
44	Columbia River	Jantzen Beach Fuel Dock	45.60715	-122.6785833	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-283-4942	Multnomah
45	Columbia River	Chinook Landing	45.56031667	-122.4428667	Metro	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-797-1700	Multnomah
48	Columbia River	Commodore's Cove	45.58723	-122.54595	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	800-551-6949	Multnomah
49	Columbia River	Sandy Beach	45.58268	-122.51426	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	800-551-6949	Multnomah
51	Columbia River	Hayden Bay Moorage	45.60848333	-122.66915	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-283-2444	Multnomah
52	Columbia River	Rooster Rock State Park	45.54474	-122.24875	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	800-551-6949	Multnomah
53	Columbia River	Red Lion Jantzen Beach	45.613056	-122.674167	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/ColumbiaRiverMultnomahCo.aspx	503-283-4466	Multnomah
56	Multnomah Channel	Brown's Landing	45.729861	-122.860556	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-351-5583	Multnomah
58	Multnomah Channel	River's Bend Marina	45.7026	-122.869	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-6223	Multnomah
59	Multnomah Channel	Rocky Pointe Marina	45.69721	-122.86985	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-7003	Multnomah
60	Multnomah Channel	Multnomah Yacht Harbor & Sales	45.6195	-122.8061	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-737-1651	Multnomah
62	Multnomah Channel	Happy Rock Moorage, Inc.	45.69362	-122.87014	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-7464	Multnomah
63	Multnomah Channel	Fred's Marina	45.61895	-122.8052667	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-286-5537	Multnomah
64	Multnomah Channel	Pirate's Cove	45.70693	-122.8684	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-5153	Multnomah
65	Multnomah Channel	McCuddy's Landing	45.72985	-122.86048	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-3836	Multnomah
66	Multnomah Channel	Larson's Moorage/Marina	45.62538333	-122.81585	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-286-1233	Multnomah
67	Multnomah Channel	Cassidy	45.6222222	-122.8107083	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-286-2157	Multnomah

Boat Ramps - CRC 2015 -

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ID	Waterbody	Boating Facility Name	Lat	Lon	Managed By	Link	Telephone	County
68	Multnomah Channel	Big Oak Marina	45.70474	-122.86863	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-351-5583	Multnomah
69	Multnomah Channel	A-1 Moorage	45.371792	-122.483483	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-283-5558	Multnomah
70	Multnomah Channel	Sauvie Island Boat Ramp	45.6537	-122.8383833	Metro	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-797-1700	Multnomah
71	Multnomah Channel	Hadley's Landing	45.65573333	-122.84265	Oregon Parks and Recreation Department	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	800-551-6949	Multnomah
72	Multnomah Channel	McCuddy's Big Oak Marina	45.70476	-122.86861	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/MultnomahChannelMultnomahCo.aspx	503-543-7436	Multnomah
78	Willamette River	Waverly Marina	45.460722	-122.660461	Waverly Marina Association	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-231-3985	Multnomah
79	Willamette River	Riverplace Public Dock	45.50926667	-122.6719	City of Portland	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-823-2525	Multnomah
105	Willamette River	Staff Jennings Boating Center	45.4651	-122.66786	Multnomah County	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-244-7505	Multnomah
107	Willamette River	Willamette Park	45.47556	-122.66874	City of Portland	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-823-2525	Multnomah
108	Willamette River	Sellwood Riverfront Park	45.46629	-122.66425	City of Portland	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-823-2525	Multnomah
109	Willamette River	Cathedral Park	45.58766	-122.76396	City of Portland	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-823-2525	Multnomah
118	Willamette River	Riverplace Marina	45.50933	-122.67283	Private	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-241-8283	Multnomah
121	Willamette River	Duckworth Memorial Dock	45.52521667	-122.66615	City of Portland	http://www.oregon.gov/OSMB/Pages/access/accesspages/MultnomahCounty/WillametteRiverMultnomahCo.aspx	503-823-2525	Multnomah

Form 1204 – SPCC Monthly Facility Inspection Checklist

Facility:		Date:	
Inspected By:			

S = Satisfactory; U = Unsatisfactory (Specific deficiencies and remedial actions must be noted in the Comments)

Facility Component	Inspection	S	U	N/A	Comments
Facility Security [40 CFR 112.7(g)]	Inspect facility security fences, gates, locks, lighting, and access systems for proper operating condition.				
Containment Areas [40 CFR 112.8(c)(6)]	Inspect containment dikes and berms for signs of deterioration, erosion or settling. Inspect containment areas for signs of discharges or accumulation of oil inside diked areas. *Accumulation of oil must be promptly removed*				
Mobile or Portable Oil Storage Containers [40 CFR 112.8(c)(11)]	Ensure that all mobile or portable oil storage containers (except for mobile refuelers and other tank trucks) are within secondary containment.				
Exposed Buried Piping [40 CFR 112.8(d)(1)]	Inspect the facility to determine if any buried piping has become exposed. *Exposed buried piping should be inspected for corrosion or damage and corrective action must be taken*				
Transfer Points [40 CFR 112.8(d)(2)]	Ensure that all transfer points associated with out-of-service piping are marked as to their origin and capped or blank-flanged.				
Aboveground Valves, Piping, and Appurtenances [40 CFR 112.8(d)(4)]	Inspect general condition of items such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, and metal surfaces. Ensure there are no signs of damage or leaks.				
Aboveground Valves [40 CFR 112.8(d)(4)]	Ensure all secondary containment drain valves are closed and locked. *Drains may only be opened to drain water from the dikes after they have been inspected for signs of oil and recorded in the Discharge Inspection Log.*				
Oil-filled Operational Equipment [40 CFR 112.7(k)]	Inspect oil-filled operational equipment for signs of equipment failure and/or discharge. List Oil-filled Operational Equipment:				
	1.				
	2.				
	3.				
	4.				
	5.				
	6.				
	7.				

Form 1204 Instructions

Purpose:

This form is intended to satisfy the requirement to periodically or regularly inspect certain facility components as part of the EPA's Spill Prevention, Containment, and Countermeasures regulation [40 CFR 112]. Bulk oil storage container integrity and high-level alarm testing/inspections are covered by different forms.

Filling out the Form:

Facility – Insert the name of the facility as it is commonly known. If the facility has multiple phases, sections, or annexes you may elect to inspect each part separately. If so, indicate which part is being inspected (i.e. Jacksonville Terminal – Annex 1).

Date – The date(s) the inspection is actually performed.

Satisfactory – a grade of "Satisfactory" indicates that all inspected components are within normal operating parameters and there is no need for follow-up, repair, or maintenance.

Unsatisfactory – a grade of "Unsatisfactory" indicates that one or more components are outside of normal operating parameters and follow-up, repair, and/or maintenance is required. If any inspection components are marked as "U", then specific information regarding the component condition, mitigative actions taken, and necessary follow-up must be provided in the "Comments" section.

N/A – Not applicable. This should only be marked when a particular component to be inspected is not present.

Oil Filled Operational Equipment – means equipment that includes an oil storage container(s) in which the oil is present solely to support the function of the apparatus or the device. These include: hydraulic systems, lubricating systems, gear boxes, machining coolant systems, heat transfer systems, electrical transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Qualified Oil Filled Operational Equipment – are those Oil Filled Operational Equipment which have not experienced a discharge to navigable waters as described in 40 CFR 112.7(k)(1). These "Qualified" facilities may implement a regular inspection or monitoring program in lieu of secondary containment. Equipment should be listed individually. Additional forms may utilized (or this form may be modified) if more space is required.

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 1 of 4)

3. Map/Sketch (include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, Impacted shorelines, or other graphics depicting situational and response status)

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 2 of 4)

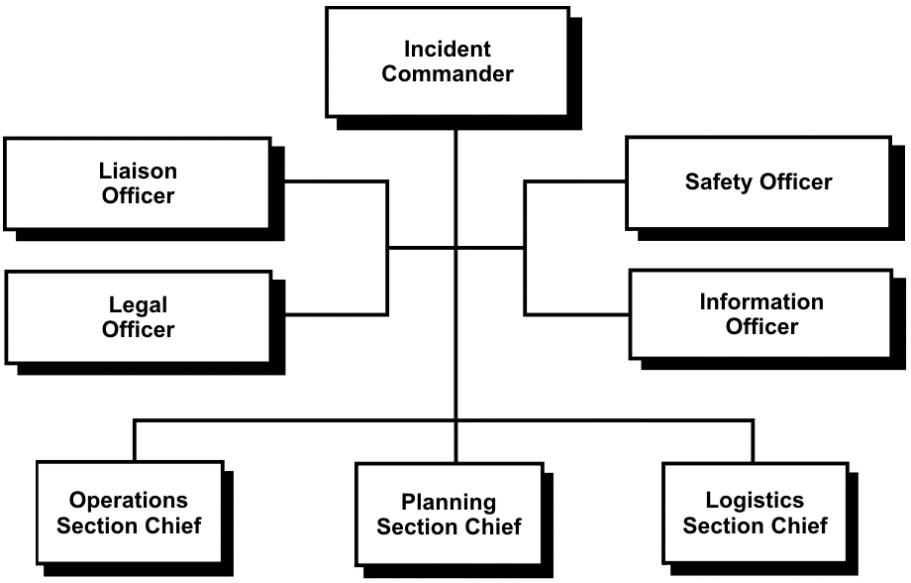
4. Initial Incident Objectives

5. Summary of Current Actions

Time	Action/Note

1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)

3. Current Organization



1. Incident Name	2. Prepared by: (name) Date Time:	INCIDENT BRIEFING ICS 201-OS (pg 4 of 4)

7. Resources Summary

Resources Needed	Time Ordered	Resources Identifier	ETA	On-Scene? (X)	NOTES: (Location/Assignment/Status)

INCIDENT OBJECTIVES

PAGE OF

1. Incident Name:	2. Operational Period (Date / Time) From: To:	INCIDENT OBJECTIVES ICS 202-OS

3. Overall Incident Objective(s)

4. Objectives for Specified Operational Period

5. Safety Message for Specified Operational Period

Approved Site Safety Plan Located At:

6. Weather (☐ mark with "X" if Weather Sheet attached)

7. Tides/Currents (☐ mark with "X" if Tide/Current Data attached)

8. Time of Sunrise **Time of Sunset:**

9. Attachments (mark with "X" if attached)

☐ Organizational List (ICS 203-OS)	☐ Medical Plan (ICS 206-OS)	☐ Resources at Risk Summary (ICS 232-OS)
☐ Assignment List (ICS 204-OS)	☐ Incident Map(s)	☐
☐ Communications Plan (ICS 205-OS)	☐ Traffic Plan	☐

10. Prepared By: ICS Position: Date: Time:

ORGANIZATION ASSIGNMENT LIST

1. Incident Name:	2. Operational Period (Date / Time) From: To:	ORGANIZATION ASSIGNMENT LIST ICS 203-OS

3. Incident Commander & Staff

	Primary	Deputy
Federal:		
State:		
RP(s):		
Safety Officer		
Information Officer		
Liaison Officer		

4. Agency Representative

Agency	Name

5. PLANNING SECTION

Chief	
Deputy	
Resources Unit	
Situation Unit	
Environmental Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. LOGISTICS SECTION

Chief	
Deputy	

a. Support Branch

Director	
Supply Unit	
Facilities Unit	
Transportation Unit	
Vessel Support Unit	
Ground Support Unit	

b. Service Branch

Director	
Communications Unit	
Medical Unit	
Food Unit	

7. OPERATIONS SECTION

Chief		
Deputy		

a. Branch I - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

b. Branch II - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

c. Branch III - Division/Groups

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

d. Air Operations Branch

Branch Director		
Deputy		
Division / Group		
Division / Group		
Division / Group		
Division / Group		
Division / Group		

8. FINANCE /ADMINISTRATION SECTION

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation/Claims Unit	
Cost Unit	

9. Prepared By: (Resources Unit) **Date / Time**

ASSIGNMENT LIST

PAGE OF

1. Incident Name:	2. Operational Period (Date / Time) From: To:	ASSIGNMENT LIST ICS 204-OS

3. Branch	4. Division/Group

5. Operations Personnel NAME AFFILIATION Contact #(s)

Operations Section Chief:

Branch Director:

Division/Group Supervisor:

6. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team /Task Force/ Resource Identifier	Leader	Contact Info #	# of persons	Notes/Remarks	
					☐
					☐
					☐
					☐
					☐
					☐

7. Assignments

8. Special Instructions for Division / Group

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name / Function Radio: Freq. / System / Channel Phone Pager

Emergency Communications

Medical Evacuation Other

10. Prepared By: (Resource Unit Leader) Date / Time	11. Approved By: (Planning Section Chief) Date Time

ASSIGNMENT LIST ATTACHMENT

PAGE OF

1. Incident Name:	2. Operational Period (Date / Time) From: To:	ASSIGNMENT LIST ATTACHMENT ICS 204a-OS
3. Branch	4. Division / Group	
5. Strike Team / Task Force / Resource Identifier	6. Leader	7. Assignment Location

8. Work Assignment Special Instructions (if any) (Ops)

9. Special Equipment / Supplies Needed for Assignment (if any) (Ops)

10. Special Environmental Considerations (if any) (P.S.C.)

11. Special Site Specific Safety Considerations (if any) (S.O.)

Approved Site Safety Plan Located At:

12. Other Attachments (as needed)

- ☐ Map
- ☐ Weather Forecast
- ☐ Shoreline Cleanup Assessment Team Report
- ☐ Tides
- ☐
- ☐

13. Prepared By: (Resources Unit Leader) **Date / Time**

RADIO COMMUNICATIONS PLAN

PAGE: OF

1. Incident Name:	2. Operational Period (Date / Time) From: To:	INCIDENT RADIO COMMUNICATIONS PLAN ICS 205-OS

3. BASIC RADIO CHANNEL USE

SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

4. Prepared By: (Communications Unit) **Date / Time**

COMMUNICATIONS LIST

1. INCIDENT NAME:	2. Operational Period (Date / Time) From: To:	COMMUNICATIONS LIST ICS 205A-OS

3. Basic Local Communications Information

Assignment	Name	Method(s) of contact (radio frequency, phone, pager, cell #(s), etc)

4. Prepared by (Communications Unit) **Date / Time**

MEDICAL PLAN

1. Incident Name:	2. Operational Period (Date / Time) From: To:	MEDICAL PLAN ICS 206-OS

3. Medical Aid Stations

NAME OF MEDICAL AID STATIONS	Location	Contact #	Paramedics On Site (Y/N)

4. Transportation (Ground and/or Ambulance Services)

Ambulance Service	Address	Contact #	Paramedics On Board (Y/N)

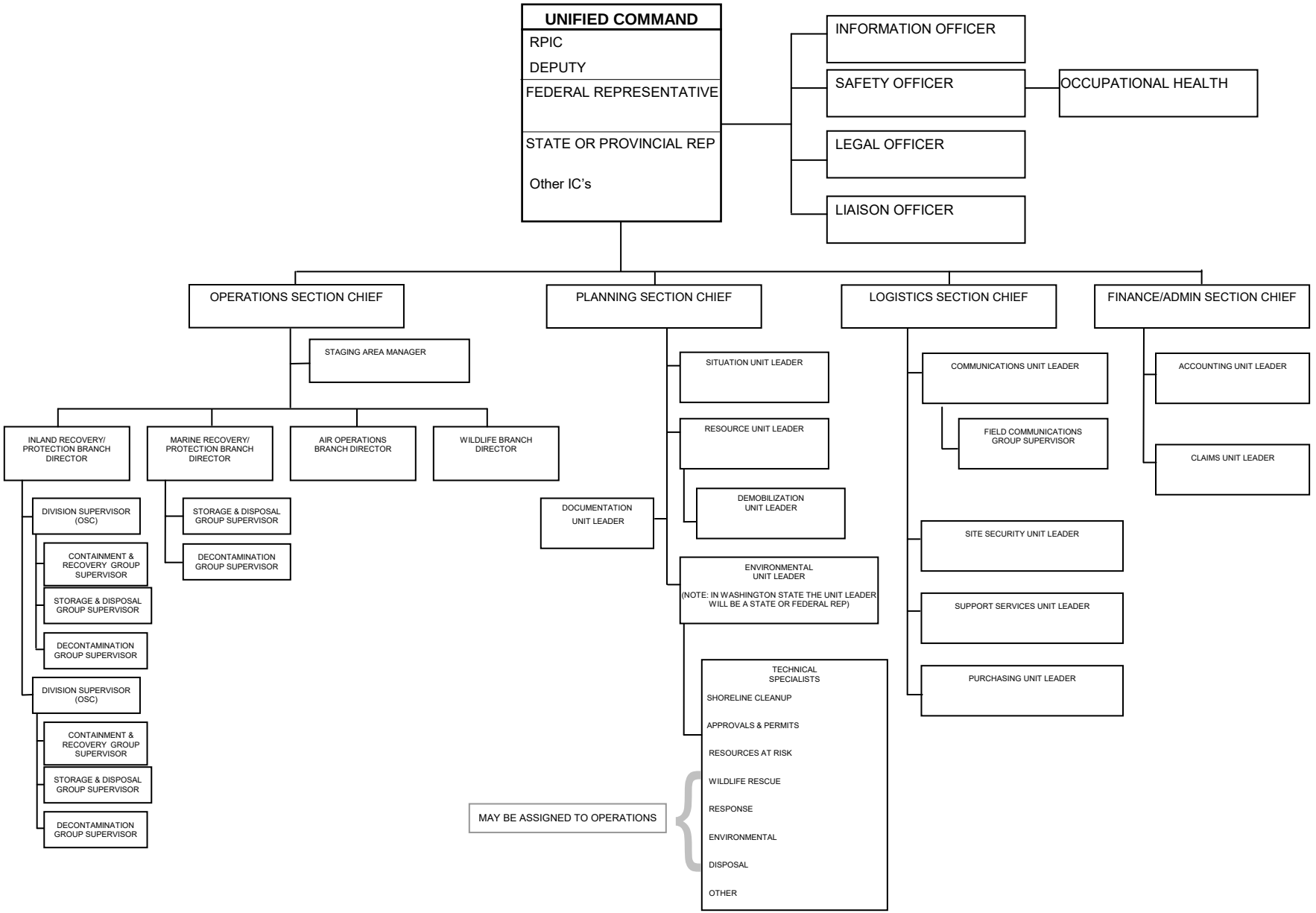
5. Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Ctr?	Heli-Pad?
			Air	Ground		

6. Special Medical Emergency Procedures

7. Prepared By: (Medical Unit Leader) Date / Time	8. Reviewed By: (Safety Officer) Date / Time

1. Incident Name	2. Operational Period Start: End:	INCIDENT ORGANIZATION CHART ICS 207-OS



INCIDENT ORGANIZATION CHART (ICS FORM 207-OS)

Purpose. The Incident Organization Chart is used to indicate what ICS organizational elements are currently activated and the names of personnel staffing each element. **The attached chart is an example of the kind of Organizational Chart used in the ICS.** An actual organization will be event-specific. Not all positions need to be filled. The size of the organization is dependent on the magnitude of the incident and can be expanded or contracted as necessary. Personnel responsible for managing organizational positions are listed in each box as appropriate.

Preparation. The Incident Organization Chart is prepared by the Resource Unit and posted along with other displays at the Incident Command Post. The ICS Form 207 may best be used as a wall-size chart for better visibility. A chart is completed for each operational period and updated when organizational changes occur.

Distribution. When competed, the cart is posted on the display board located at the Incident Command Post. All original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.

INCIDENT STATUS SUMMARY

1. Incident Name	2. Period Covered by Report From: To:	Time of Report	INCIDENT STATUS SUMMARY ICS 209-0S

3. Spill Status (Estimated, in Barrels) [Ops & EUL/SSC]

Source Status: Remaining Potential (bbl):

☐ Secured Rate of Spillage (bbl/hr):

☐ Unsecured

	Since Last Report	Total
Volume Spilled		
Mass Balance / Oil Budget		
Recovered Oil		
Evaporation		
Natural Dispersion		
Chemical Dispersion		
Burned		
Floating, Contained		
Floating, Uncontained		
Onshore		
Total spilled oil accounted for:		

4. Waste Management (Estimated) [Ops / Disposal]

	Recovered	Stored	Disposed
Oil (bbl)			
Oily Liquids (bbl)			
Liquids (bbl)			
Oily Solids (tons)			
Solids (tons)			

5. Shoreline Impacts (Estimated, in miles) [PSC/EUL/SSC]

Degree of Oiling	Affected	Cleaned	To be Cleaned
Light			
Medium			
Heavy			
Total			

6. Wildlife Impacts [Ops / Wildlife Br.]

Numbers in ( ) indicate subtotal that are threatened / endangered species.

	Captured	Cleaned	Released	DOA	Died in Facility: Euth.	Died in Facility: Other
Birds						
Mammals						
Reptiles						
Fish						
Total						

7. Safety Status [Safety Officer]

	Since Last Report	Total
Responder Injury		
Public Injury		

8. Equipment Resources [RUL]

Description	Ordered	Available / Staged	Assigned	Out of Service
Spill Resp. Vsls				
Fishing Vessels				
Tugs				
Barges				
Other Vessels				
Skimmers				
Boom (ft.)				
Sbnt/Snr Bm. (ft.)				
Vacuum Trucks				
Helicopters				
Fixed Wing				

9. Personnel Resources [RUL]

Organization	People in Cmd. Post	People in the Field	Total People On Scene
Federal			
State			
Local			
RP			
Contract Personnel			
Volunteers			
Total Response Personnel from all Organizations:			

10. Special Notes

11. Prepared by (Situation Unit Leader)

STATUS CHANGE

1. Incident Name	2. Operational Period (Date / Time) From: To:	STATUS CHANGE ICS 210-OS

3. Personnel / Resource Name or I.D.

4. New Status

☐ Available / Staged ☐ Assigned _____ ☐ Out of Service

5. FROM Location or Status	6. TO Location or Status

7. Time of Location / Status Change

8. Comments

9. Prepared by: **Date / Time**

10. Processed by: (Resource Unit) **Date / Time**

1. Incident Name	2. Operational Period (Date / Time) From: To:	3. Check-in Location ☐ Command Post ☐ Other ☐ Staging Area _____	**CHECK-IN LIST (Equipment)** **ICS 211e-OS**

Equipment Check-in Information					**9. Initial Incident Check-In?**	**10. Time**	
4. Equipment Description	**5. Equipment Identifier**	**6. Supplier/Owner**	**7. Assignment**	**8. Contact Information**	(X)	In	Out
					☐		
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					☐		

11. Prepared by: **Date / Time**	**12. Date / Time Sent to Resources Unit**

1. Incident Name	2. Operational Period (Date / Time) From: To:	3. Check-in Location ☐ Command Post ☐ Other ☐ Staging Area _____ _____	**CHECK-IN LIST (Personnel)** **ICS 211p-OS**

Personnel Check-in Information				8. Initial Incident Check-In?	9. Time	
4. Name	**5. Company/Agency**	**6. ICS Section / Assignment / Quals.**	**7. Contact Information**	(X)	In	Out
				☐		
				☐		
				☐		
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10. Prepared by: Date / Time	11. Date / Time Sent to Resources Unit

GENERAL MESSAGE		
TO:	POSITION:	
FROM:	POSITION:	
SUBJECT:	DATE:	TIME:

MESSAGE

SIGNATURE:	POSITION:

REPLY

DATE:	TIME:	SIGNATURE/POSITION:

UNIT LOG	1. Incident Name	2. Date Prepared	3. Time Prepared
4. Unit Name/Designators	5. Unit Leader (Name and Position)		6. Operational Period

7. Personnel Roster Assigned		
Name	ICS Position	Home Base

8. Activity Log	
Time	Major Events

9. Prepared by (Name and Position)

1. Incident Name	2. Operational Period (Date/Time) From: To:	INDIVIDUAL LOG ICS 214a-OS

3. Individual Name	4. ICS Section	5. Assignment/Location

6. Activity Log	Page of

Time	Major Events

7. Prepared by:	Date/Time

Operational Planning Worksheet

1. Incident Name:	2. Operational Period (Date / Time) From: To:	OPERATIONAL PLANNING WORKSHEET ICS 215-OS

3.Division / Group Or Location	4. Work Assignments	5. Resource / Equipment															6. Notes / Remarks	7. Reporting Location	8.Requested Arrival Time	9. "X" here if 204a Needed
		Resource																		
		Req.																		☐
		Have																		☐
		Need																		☐
		Req.																		☐
		Have																		☐
		Need																		☐
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		Have																		☐
		Need																		☐
		Req.																		☐
		Have																		☐
		Need																		☐
10. Total Resources Required:																		13. Prepared By: (RUL)		
11. Total Resources on Hand:																				
12. Total Resources Needed:																		Date:	Time:	

INCIDENT ACTION PLAN SAFETY ANALYSIS

1. Incident Name	2. Date/Time Prepared

3. DIVISION/ GROUP/ OTHER LOCATION	4. Work Assignments	5. Gain		6. HAZARDS												7. CONTROLS										8. ORM			
																										SEVERITY	PROBABILITY	EXPOSURE	GAR
		Human Health		Check													Check												
		Security																											
		Environment																											
		Economy																											
		Human Health		Check													Check												
		Security																											
		Environment																											
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		Human Health		Check													Check												
		Security																											
		Environment																											
		Economy																											

ICS-215A-CG (rev 6/06)	Operational Risk Management Key	Scale	1	2	3	4	5	Gar Scale	#	1-19	20-39	40-59	60-79	80-100	9. Prepared by (Name and Position)
		Severity	Slight	Minimal	Signif-icant	Major	Catas-trophic		Risk	Slight	Possible	Substantial	High	Very High	
		Probability	Remote	Un-likely	50/50	>50	Very Likely		Color	Green	Amber	Red	Red	Red	
		Exposure	Below Avg	Avg	Above Avg	Great	N/A		Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop	

INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS-215A-CG (rev 6/06))
Instructions for filling out the form

Purpose: The purpose of this worksheet is to aid the Safety Officer in completing an operational risk assessment to prioritize hazards and develop appropriate controls.

Preparation: During the Incident Action Planning cycle where the Operations Section Chief (OSC) is preparing for the tactics meeting, the Safety Officer works alongside the OSC and completes the Incident Action Plan Safety Analysis. This sheet mirrors the ICS 215 form. Work assignments are listed along with associated hazards. A calculation is made that determines what level of risk each work assignment poses. For those assignments having significant risk, controls are developed for safeguarding responders. The net risk is evaluated against the gain. The Incident Commander should be alerted to all safety hazards that receive an amber or red GAR rating after controls have been established.

Distribution: The Operational Hazard Worksheet is attached to the Incident Site Safety Plan and is distributed according to the instruction for Site Safety Plans.

Instructions:

Item #	Item Title	Instructions
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) and time prepared.
3	Division/Group	Enter the Branch, Division or Group title in abbreviated form.
4	Work Assignment	List the work assignment for each Branch, Division or Group.
5	Gain	Check the gain that is achieved when the work assignment is accomplished.
6	Hazards	Using the IAP Safety Analysis Aid (page 2), list the type of hazards likely to be encountered for the work assignment. Place a check mark in the box below the hazard.
7	Controls	Using the IAP Safety Analysis Aid (page 2), list the type of controls likely to be used for addressing the hazards listed. Place a check mark in the box below the control.
8	GAR	Using the "Key", assign a number from 1 to 5 based on the level of severity, probability and exposure. Multiply all numbers together to get a total. Enter this number into the total column. Gar means **G**reen, **A**mber, **R**ed. Using the GAR scale on the bottom of the sheet, assign a color, risk level or action phrase in this block.
9	Prepared by	Enter the name of the person who completed this worksheet.

ICS-215A-CG INCIDENT ACTION PLAN SAFETY ANALYSIS AID

HAZARDS:

Physical	Chemical/Biological	Human
• Slipping	• Explosion	• Violence
• Tripping	• Flammable	• Poor Lifting
• Fall	• Air Reactive	• Repetition
• Overhead	• Water Reactive	• Excessive Force
• Heat Stress	• Chem Reactive	• Poor posture
• Cold Stress	• Alpha Rad	• Awkward motion
• Electrical	• Beta Rad	• Fatigue
• Blunt Objects	• Gamma Rad	• Poor hygiene
• Sharp Objects	• X Rad	• Illness
• Noise	• Bio-weapon	• Alcohol/Drugs
• Vehicle	• Chem-weapon	• Over crowding
• Fire	• Irritant	• Poor comms
• Sun/UV Glare	• Asphyxiant	• Noise interference
• Sun Burn	• Oxidizer	• Smoking
• Moving Pinch Points	• Carcinogen	• Driving
• Unguarded Machinery	• Corrosive	**Animal/Plant**
• Lightning	• Cryogenic	• Bites/Stings
• Drowning	• Toxic	• Poison
• Engulfment	• Biomed/pathogen	• Thorns/burrs
• Limited Egress/Access	• Particulates	• Swarms
	• Fumes (weld etc.)	• Disease
	• O2 Deficiency	• Feces/Coliforms

CONTROLS:

Types of Engineering Controls:

• Barriers	• Shields	• Dams
• Capping	• Covering	• Fencing
• Terminating	• Shutting	• Blocking
• Chocks	• Enclosures	• Diverters
• Flanging	• Guarding	• Substitution
• Anchoring	• Ventilation	• Blowing
• Scaffolding	• Grounding	• Substitution
• Bonding	• Insulation	• Lighting
• Locks, Tags	• Kill-switches	• Shut-off valves
• Taglines	• Circuit Breakers	• Process change
• Plugging, patching	• Sealing	• Absorbers

Types of Administrative Controls:

• Reduced work duration	• Worker rotation	• Safety plans
• Training	• Safety briefs	• Relief personnel
• Maintenance	• Drinking fluids	• Work/rest periods
• Good housekeeping	• Roving security	• Signs
• Warning lights	• Alarms	• Break areas
• Pre-inspections	• Field checks	• Buddy system
• Line of sight comms	• Comms schedule	• Equipt staging
• Load shifting	• Hazard marking	• Placarding
• Labeling	• Hand signals	• Safety observers
• Fendering	• Work plans	• Replenish fluids
• Handcarts/trolleys	• Fire extinguishers	• Drum bulking
• Eye Wash Station	• Hand washers	• Showers

Types of Personal Protective Equipment Controls:

• Hard hats	• Steel-toed shoes	• Safety glasses
• Safety goggles	• Face shields	• Hearing Protection
• Life jacket	• Fall arrests	• SCBA
• APRs	• Chemical suits	• Flash suits
• Fire resistant suits	• Work gloves	• Chemical gloves
• Sun glasses	• Sun-block	• Life rings
• Eye wash stations	• Night vision	• Thermal protection
• Dry/wet suits	• Hand warmers	• Wind breaker coat
• Knee pads	• Over garments	• Coveralls
• Booties	• Cooling vests	• Chap lip protection
• Hats for warming	• Gloves (warmth)	• Clothing (warmth)

1. INCIDENT NAME	2. DATE	3. OPERATIONAL PERIOD (DATE/TIME)	RADIO FREQUENCY ASSIGNMENT WORKSHEET ICS 217

4. INCIDENT ORGANIZATION

5. RADIO DATA	SOURCE	FUNCTION	CH#	FREQUENCY	TOTAL BY REQ.
INCIDENT COMMANDER					
SAFETY OFFICER					
OPERATIONS SECTION CHIEF					
AIR OPERATIONS					
AIR TACTICAL SUPERVISOR					
PLANNING SECTION CHIEF					
GROUND SUPPORT UNIT					
BASE UNIT					
COM CENTER					
BRANCH					
DIVISION					
DIVISION					
BRANCH					
DIVISION					
DIVISION					
BRANCH					
DIVISION					
DIVISION					

6. Agency

ICS 217	Page	Prepared By:

SUPPORT VEHICLE INVENTORY (USE SEPARATE SHEET FOR EACH VEHICLE CATEGORY)	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED

VEHICLE INFORMATION

a. TYPE	b. MAKE	c. CAPACITY/SIZE	d. AGENCY/OWNER	e. I.D. NO.	f. LOCATION	g. RELEASE TIME

218 ICS 8-78	PAGE	5. PREPARED BY (GROUND SUPPORT UNIT)

ICS 219_2 HANDCREWS - GREEN COLORED CARD

Purpose. Resource Status Cards are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. The Resource Status Cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including but not limited to:

1. ICS Briefing (ICS Form 201)
2. Check-In-List (ICS Form 211)
3. Status Change Card (ICS Form 210)
4. Agency supplied information

Detailed information on preparing status cards is found in Resources Unit Position Manual (ICS 221-3).

Distribution. The cards are displayed in resource status racks where they can be easily retrieved. Cards will be retained by the Resources Unit until demobilization. At demobilization all cards will be turned into the Documentation Unit.

Item Title	Instructions
Order/Request No.	Number assigned by dispatching agency.
Home Base	Location at which Handcrew is normally located.
Departure Point	Location from which Handcrew left to reach this incident.
Crew ID No./Name (for Strike Teams)	List commonly used names or numbers to identify the crews which make up the Strike Team.
No. Personnel	Total no. of personnel (including Leader) in Crew or Strike Team.
Manifest	Was a manifest prepared for the Crew/Strike Team?
Weight	Total weight (including equipment and personal belongings) of the Crew/Strike Team.
Destination Point	Next location to which Crew/Strike Team is being sent from the incident.
Method of Travel	Enter the appropriate method of travel (e.g., own, bus, air).
Transportation Needs	Enter the appropriate transportation needs (e.g., own, bus, air).
Status	Choose the appropriate entry from the pop-up menu. If the item is O/S (out-of-service), enter the ETR (estimated time of return) in the ETR field below the Status field.

Incident Location	Assigned location information on handcrews may be the same as other resources (e.g., Division A). However, location could also indicate a “general” working location (e.g., Cajon Beach).

ICS 219_4 HELICOPTER - BLUE COLORED CARD

Purpose. Resource Status Cards are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. The Resource Status Cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including but not limited to:

1. ICS Briefing (ICS Form 201)
2. Check-In-List (ICS Form 211)
3. Status Change Card (ICS Form 210)
4. Agency supplied information

Detailed information on preparing status cards is found in Resources Unit Position Manual (ICS 221-3).

Distribution. The cards are displayed in resource status racks where they can be easily retrieved. Cards will be retained by the Resources Unit until demobilization. At demobilization all cards will be turned into the Documentation Unit.

Item Title	Instructions
Order/Request No.	Number assigned by dispatching agency.
Home Base	Location at which helicopter is normally located.
Departure Point	Location from which helicopter left to reach this incident.
Destination Point	Next location to which helicopter is being sent from the incident.
Incident Location	Assigned location information on helicopters may be the same as other resources (e.g., Division A). However, location could also indicate a “general” working location (e.g., water-dropping in Branch 1; or Crew Transport – Wilson Staging Area).
Status	Choose the appropriate entry from the pop-up menu. If the item is O/S (out-of-service), enter the ETR (estimated time of return) in the ETR field below the Status field.
Manufacturer Name/No.	e.g., Bell 206

ICS 219_6 AIRCRAFT - ORANGE COLORED CARD

Purpose. Resource Status Cards are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. The Resource Status Cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including but not limited to:

1. ICS Briefing (ICS Form 201)
2. Check-In-List (ICS Form 211)
3. Status Change Card (ICS Form 210)
4. Agency supplied information

Detailed information on preparing status cards is found in Resources Unit Position Manual (ICS 221-3).

Distribution. The cards are displayed in resource status racks where they can be easily retrieved. Cards will be retained by the Resources Unit until demobilization. At demobilization all cards will be turned into the Documentation Unit.

Item Title	Instructions
Order/Request No.	Number assigned by dispatching agency.
Home Base	Location at which aircraft is normally located.
Departure Point	Location from which aircraft left to reach this incident.
Destination Point	Next location to which aircraft is being sent from the incident.
Incident Location	Reflect the area of the incident to which aircraft is primarily assigned (e.g., Branch 1).
Status	Choose the appropriate entry from the pop-up menu. If the item is O/S (out-of-service), enter the ETR (estimated time of return) in the ETR field below the Status field.
Manufacturer Name/No.	e.g., Douglas DC-3

ICS 219_7 DOZERS - YELLOW COLORED CARD

Purpose. Resource Status Cards are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. The Resource Status Cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including but not limited to:

1. ICS Briefing (ICS Form 201)
2. Check-In-List (ICS Form 211)
3. Status Change Card (ICS Form 210)
4. Agency supplied information

Detailed information on preparing status cards is found in Resources Unit Position Manual (ICS 221-3).

Distribution. The cards are displayed in resource status racks where they can be easily retrieved. Cards will be retained by the Resources Unit until demobilization. At demobilization all cards will be turned into the Documentation Unit.

Item Title	Instructions
Order/Request No.	Number assigned by dispatching agency.
Home Base	Location at which dozer is normally located.
Departure Point	Location from which dozer left to reach this incident.
Resource ID Numbers/Names	List dozer numbers and Operator names for dozers in Strike Teams. Show contractor name as appropriate.
Destination Point	Next location to which dozer is being sent from the incident.
Incident Location	Assigned location information on dozers may be the same as other resources (e.g., Division A). However, location could also indicate a “general” working location (e.g., Cajon Beach).
Status	Choose the appropriate entry from the pop-up menu. If the item is O/S (out-of-service), enter the ETR (estimated time of return) in the ETR field below the Status field.

AIR OPERATIONS SUMMARY

1. Incident Name	2. Operational Period (Date / Time) From: To:	AIR OPERATIONS SUMMARY ICS 220-OS

3. Distribution

☐ Fixed-Wing Bases ☐ Helibase

4. Personnel and Communications

	Air Operations Director	Air / Air Frequency	Air / Ground Frequency
Air Operations Director			
Air Tactical Supervisor			
Air Support Supervisor			
Helicopter Coordinator			
Fixed-Wing Coordinator			

5. Remarks (Spec. Instructions, Safety Notes, Hazards, Priorities)

6. Location / Function	7. Assignment	8. Fixed-Wing		9. Helicopter		10. Time		11. Aircraft Assigned	12. Operating Base
		NO.	TYPE	NO.	TYPE	Available	Commence		
	13. Totals								

14. Air Operation Support Equipment	15. Prepared By	Date / Time

1. Incident Name	2. Operational Period (Date / Time) From: To:	DEMOB. CHECK-OUT ICS 221-OS
3. Unit / Personnel Released	4. Release Date / Time	

5. Unit / Personnel

You and your resources have been released, subject to signoff from the following:
(Demob. Unit Leader "X" appropriate box(es))

Logistics Section

- ☐ Supply Unit _____
- ☐ Communications Unit _____
- ☐ Facilities Unit _____
- ☐ Ground Unit _____

Planning Section

- ☐ Documentation Unit _____

Finance / Admin. Section

- ☐ Time Unit _____

Other

- ☐ _____ _____
- ☐ _____ _____
- ☐ _____ _____

6. Remarks

_____

_____

_____

_____

7. Prepared by: **Date / Time**

1. Incident Name	2. Operational Period (Date/Time) From: To:	DAILY MEETING SCHEDULE ICS 230-OS

3. Meeting Schedule (Commonly-held meetings are included)

Date/Time	Meeting Name	Purpose	Attendees	Location
	Tactics Meeting	Develop primary and alternate Strategies to meet Incident Objectives for the next operational period.	PSC, OPS, LSC, EUL, RUL & SUL	
	Planning Meeting	Review status and finalize strategies and assignments to meet incident objectives for the next operational period.	Determined by the IC / UC	
	Operations Briefing	Present IAP and assignments to the Supe rvisors/Leaders for the next operational period.	IC / US, Command Staff, General Staff, Branch Directors, Div. Sups., Task Force / Strike Team Leaders and Unit Leaders	
	Unified Command Objectives Meeting	Review/identify objectives for the next operational period.	Unified Command members	

4. Prepared By: (Situation Unit Leader)	Date/Time:

1. Incident Name	2. Meeting Date/Time	MEETING SUMMARY ICS 231-OS
3. Meeting Name		
4. Meeting Location		
5. Facilitator		
6. Attendees		
7. Notes (with summary of decisions and action items)		
8. Prepared by:	Date/Time	

RESOURCES AT RISK

PAGE OF

1. Incident Name:	2. Operational Period Time (Date / Time) From: To:	RESOURCES AT RISK ICS 232-OS

3. Environmentally-Sensitive Areas and Wildlife Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative:

4. Archaeo-cultural and Socio-economic Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative:

5. Prepared By (Environmental Unit Leader: **Date / Time**

IAP COVER A

1. Incident Name:	2. Operational Period to be covered by IAP (Date/Time) From: To:	IAP COVER SHEET
3. Approved by:		
FOSC _____		
SOSC _____		
RPIC _____		
_____ _____		
_____ _____		

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ☐ ICS 202-OS (Response Objectives)
- ☐ ICS 203-OS (Organization List) - OR - ICS 207-OS (Organization Chart)
- ☐ ICS 204-OS (Assignment List)
  - ☐ Map
  - ☐ Weather forecast
  - ☐ Tides
  - ☐ Shoreline Cleanup Assessment Team Report for location
  - ☐ Previous day's progress, problems for location
- ☐ ICS 205-OS (Communications Plan)
- ☐ ICS 206-OS (Medical Plan)
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

4. Prepared By:	Date/Time:

Initial Site Safety Assessment - WR

Incident I.D.:_____ _____

What to evaluate during Initial Site Safety Assessment?

1 Source Controlled (Circled)?	Yes or No
2 Product(s) Involved:	
3 Affected Personnel:	
4 Weather /Environmental Impact	Wind Direction from: Wind Speed (mph): Rain (Circled)? Yes or No Current (knot) /Tides (if there is marine activities):
5 IH / Air Monitoring Data	Date / Time:
	LEL (%):
	Oxygen (%):
	CO (ppm):
	Others:
6 Apparent Hazards	
7 PPE	

- **Full Site Safety Plan will be developed with ICS.**

Additional Comments:

Incident Name:

_____

Operational Period (Date):

_____

During the response the following actions will be conducted:

Initial Response Phase:
During the Initial Response Phase NuStar and the UC will utilize the facility Site Safety Plan and that of their OSROs. The Safety Officer will review these plans to ensure all site locations and types of work are covered.

Proactive Response Phase:
During the Proactive Response Phase, the Safety Officer will develop/update this plan with each Incident Action Plan. The Safety Officer will work with Operations while Preparing for the Tactics Meeting (ICS-215) and gain an understanding of each Group/Division and the work within each. The Safety Officer will then evaluate the tactics by using an ICS-215a. The Site Safety Plan will then be fully developed based on the controls needed.

HEALTH AND SAFETY PLAN

Plan Drafted By: _____ Position: _____

Plan Reviewed By: _____ Position: _____

Approved by Incident Commander (IC): ☐ Yes ☐ No

IC Signature: _____ Date/Time: _____

FOSC Signature: _____ Date/Time: _____

SOSC Signature: _____ Date/Time: _____

Organization

The Health And Safety Plan (HASP) will be developed by the incident Safety Officer distributed to each section chief, branch director, and division/group supervisor. Further detail on the incident's organizational relationships shall be found on the current ICS-207. All personnel who need to use this plan must first read and sign acknowledgement in the appendix.

The following personnel will be designated as Safety Officer and Deputy Safety Officer:

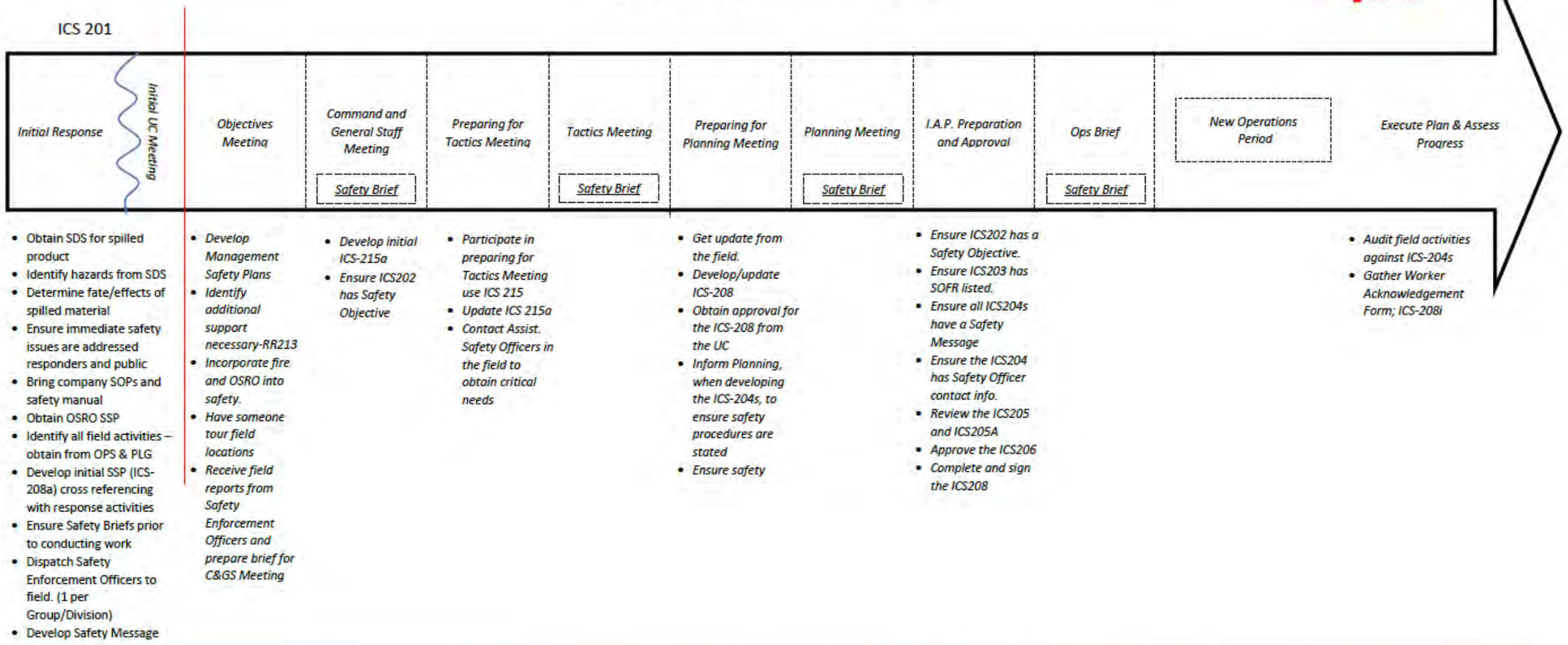
Safety Officer: _____ Phone Number: _____

Deputy Safety Officer: _____ Phone Number: _____

_____ has the responsibility and authority to direct all hazardous waste operations for this event.

(Name of designated person)

ICS Safety Process Chart



***Safety Officer**: The SOFR is to develop and recommend measures to ensure personnel safety and occupational health of not only response workers, but also the public, and to anticipate, recognize, assess, and control hazardous and unsafe conditions or situations.*

– USCG IMH 2014

The SOFR is responsible for both Tactical Operations through the ICS-208 and Management Objectives via dedicated plans.

Example Safety disciplines for Assistant Safety Officers:

- Air Ops
- Landside
- On-water-boat ops
- Lifting & cranes
- Underwater & diving
- Facilities
- Transportation-traffic
- Wildlife – Snakes/reptiles
- Industrial Hygienist
- Salvage/firefighting
- Air Monitoring
- Heavy Equipment/ Construction

HEALTH AND SAFETY PLAN APPLICABILITY

THIS PLAN IS APPLICABLE TO:

☐ Employees	☐ Agencies	☐ Worksites
☐ Contractors	☐ Established Facilities	☐ _____

RESPONDING ORGANIZATIONS AND AGENCIES:

Organization/Agency:

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____
5. _____ _____
6. _____ _____
7. _____ _____
8. _____
9. _____
10. _____

All government and contractor personnel who enter the Exclusion Zones or use air purifying respirators must be enrolled in a medical monitoring program.

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1. Weather

- ☐ Air Temperature _____(Low) _____(High)
- ☐ Water Temperature _____ ^{0}F
- ☐ Wind Speed/Direction _____
- ☐ Precipitation _____
- ☐ Current Speed/Direction _____
- ☐ Sea Heights/Direction _____

2. General Site Hazards

Check All that Apply:

- ☐ Chemical hazards
- ☐ Slips, trips, falls
- ☐ Heat Stress
- ☐ Cold Stress
- ☐ Steam, hot water
- ☐ Drowning
- ☐ Drum handling
- ☐ Wildlife/plants
- ☐ Hand/power tools
- ☐ Lifting
- ☐ Boats
- ☐ Helicopters
- ☐ Noise
- ☐ Pumps, hoses Weather
- ☐ Fire/Explosion Heavy equipment
- ☐ Poor visibility
- ☐ Motor vehicles
- ☐ Confined spaces (see
- ☐ Ionizing radiation
- ☐ Other: _____

3. Hazard and Risk Assessment

Attach Safety Data Sheets (SDS) or other references/documentation for materials involved in this incident. During the response, the "ICS 215a – Incident Action Plan Safety Analysis" process shall be utilized to analyze hazards and controls to ensure the safety of responders.

4. Control Measures

Engineering Controls

- ☐ Source of release secured ☐ Valve(s) closed ☐ Facility shut down
- ☐ Site secured
- ☐ Other _____

5. General Safety Briefing

Before any incident actions are taken, a briefing will be conducted with all personnel present. Personnel will sign in on a NuStar Form 2201 or similar log sheet, attesting to being present at the pre-Incident briefing. Topics discussed should be distributed to the group via an ICS 215a to include specific areas, risks, and mitigations necessary to maintain safe operations.

6. General Safety Rules

1. There will be no eating, drinking or smoking except in designated areas.

2. All personnel must pass through the Contamination Reduction (Warm) Zone to enter or exit the Exclusion (Hot) Zone.

3. Decontamination Team Members can NOT be more than one (1) level of protection lower than that of the entry teams.

4. All decontamination equipment and systems must be in place before an entry can be made.

5. All breathing air, if used, shall be certified as Grade D or better.

6. Where practical, all tools shall be of the non-sparking type.

7. Firefighting equipment shall be on hand when the situation warrants such support. At a minimum, fire extinguishers shall be available on-scene.

8. Since incident evacuation may be necessary if an explosion, fire or other release occurs, an individual shall be assigned to sound an alert and notify the responsible command personnel and public officials, if required. The evacuation signal shall be _____ until all personnel are known to be evacuated.

9. Medical first responders, appropriate to the situation, shall be on site at all times.

10. The location & telephone number of the nearest medical facility & Emergency Medical Services (EMS) provider shall be posted and known to all personnel.

7. Specialized Work Assignments

All work assignments are captured on the ICS 215 Operational Planning Worksheet and ICS 215a Incident Action Plan Safety Analysis. Additionally, the ICS 204 assignment lists capture a comprehensive work plan that addresses tasks, objectives, logistics and resources for each site operation. A description of site safety and controls will be incorporated into the ICS 204 assignment lists.

Excavation/Shoring
☐ Excavations shall be conducted in accordance with WAC 296-155 & WAC 296-843-120

Sanitation
☐ Facilities provided per *OSHA 1910.120(n), WAC 296-843, or T8 CCR 5192.*

Illumination
☐ Facility provided per *OSHA 1910.120(m), WAC 296-843, or T8 CCR 5192.*

Work Permits
☐ Appropriate Work Permits Issued per *OSHA 1910.120, WAC 296-843, or T8 CCR 5192.*

8. Training

(HAZWOPER-Training Program)
Verified site worker training per *29 CFR 1910.120, WAC 296-843, or T8 CCR 5192*

The following training must be verified by the Safety Officer:
1) HAZWOPER – Trained to appropriate level
2) Decontamination Training
3) Emergency Response Plan Training
4) Confined Space Entry Training
5) Spill Containment Program Training
6) Personal Protective Equipment Training (in the use of donning, doffing and disposal)

9. Personal Protective Equipment (PPE)

Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in paragraph (g)(5) of 29 CFR 1910.120 shall address the elements listed below:

- PPE selection based upon site hazards,
- PPE use and limitations of the equipment,
- Work mission duration,
- PPE maintenance and storage,
- PPE decontamination and disposal,
- PPE training and proper fitting,
- PPE donning and doffing procedures,
- PPE inspection procedures prior to, during, and after use,
- Evaluation of the effectiveness of the PPE program, and

- Limitations during temperature extremes, heat stress, and other appropriate medical considerations.

PERSONAL PROTECTIVE EQUIPMENT

PPE requirements will be referenced to the EPA levels of protection (A-D).
Specific descriptions for each task and level of protection is provided below

- The PPE listed below is a suggestion that should be adjusted based on the conditions present.

TASK	Level	MASK /CARTRIDGE /AIR	ADDITIONAL PPE
Vessel Operation / Deployment	**D**	N/A	Personal Floatation Devices (PFD) and sturdy work boots
Oil / Equipment Recovery	**D**	N/A	Tyvek suits, PVC gloves, PFD, safety glasses, neoprene boots. Hard hats must be worn in areas in which personnel may be at risk for head injuries (i.e. working under piers, working near cranes, etc.). Goggles or face shield should be worn when spraying liquids. Respiratory protection may be required if atmospheric monitoring results indicate the need.
Working on shore near oiled areas or with oiled animals	**D**	N/A	Tyvek suits, PVC gloves, safety glasses, neoprene boots. Hard hats must be worn in areas in which personnel may be at risk for head injuries (i.e. working under piers, working around cranes, etc.). PFD must be used when working on piers or other areas in which workers could fall into the water. Respiratory protection may be required if atmospheric monitoring results indicate the need. Personal Floatation Devices (PFD) on water or working within 10' of shoreline.
Shoreside Decon	**D**	N/A	Hardhats, Hearing protection, Rain suits, PVC gloves, safety glasses, neoprene boots. Face shield should be worn when spraying liquids. Respiratory protection may be required if atmospheric monitoring results indicate the need.
Air Operations	**D**	N/A	Personal Floatation Devices (PFD) shall be worn by all passengers on overwater flights.
Operator – Guzzler Truck	**D**	N/A	High visibility Hardhats, safety glasses, hearing protection, cotton coveralls, leather gloves, steel toe leather boots, high visible traffic vests. Respiratory protection may be required if atmospheric monitoring results indicate the need.
Drone Operation	**D**	N/A	High visibility Hardhats, safety glasses, hearing protection, cotton coveralls, leather gloves, steel toe leather boots, high visible traffic vests.

10. Medical Surveillance

Medical surveillance requirements must be met in accordance with the program in paragraph (f) of 29 CFR 1910.120.

Any employee exposed to hazardous substances above the Permissible Exposure Limit (PEL) or reporting acute effects related to possible exposure will be provided medical evaluation and treatment, as deemed necessary, by company and medical support personnel.

***Employees covered*.**

- All employees who are or may be exposed to hazardous substances or health hazards at or above the established permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;
- All employees who wear a respirator for 30 days or more a year or as required by 1910.134;
- All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and
- Members of HAZMAT teams.

Frequency of medical examinations and consultations

- Prior to assignment;
- At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;
- At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.
- As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;
- At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

or

- As soon as possible following the emergency incident or development of signs or symptoms;
- At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

Recordkeeping
An accurate record of the medical surveillance required by paragraph (f) of this section shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.1020.

(What procedures to be used to monitor personnel for evidence of personal exposure).

_____
_____
_____
_____
_____

11. Monitoring Procedures

-- 1910.120(B)(4)(II)(E)

Monitoring includes the frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

Site Monitoring

The following incident site(s) monitoring shall be done as appropriate:

Combustible Gas Monitoring:	As needed to ensure personnel protection but at least every two (2) hours. Frequency of or termination of gas monitoring shall be approved by the Safety Officer or the Incident Commander. For personal protection procedures, refer to company response plan and SDS.
Oxygen Monitoring:	Continuous.
H2S / Toxicity Monitoring:	Continuous.
Total Hydrocarbons:	Continuous.
Benzene Monitoring:	As needed, same as above.
Butadiene Monitoring:	N/A.
Propane:	N/A.
Butane:	As needed, same as above.
Acetone:	As needed, same as above.
Passive Organic Vapor Monitors (3M Badges)	As needed, same as above.
Soil/Medium Sampling:	As needed, same as above.
Other known or suspected contaminants:	As needed, same as above.
4 Gas Monitoring:	Continuous

Recording Results: Monitoring Results will be recorded on the Air Monitoring Log. See Attached

Action Levels:

Combustible Gas Monitoring:	
Oxygen Monitoring:	19.5% and 22.5%
H2S / Toxicity Monitoring:	5 ppm
Total Hydrocarbons:	
Benzene Monitoring:	0.5 ppm

12. Monitoring: Emergency Action Conditions

Code Green:

All conditions are normal and incident work may continue.

Code Red:

All or specific work activities must cease at once due to the following:

1. Indications of emissions from the incident with any readings of 10% or greater, oxygen content less than 19.5% or greater than 22%, Benzene greater than 1.0 ppm present.

2. Current or projected meteorological data indicates that a probable impact on working conditions could occur.

3. If background readings obtained during cessation of activities worsen, reassessment of the findings should be confirmed. Actions to lower levels of contaminant or contingencies for further incident monitoring must take place.

4. If any of these conditions exist, on-site personnel will immediately notify command staff.

Officials making evacuation/public health decisions will address the need for a public health advisory to potentially affected areas, since incident control methods may or may not reduce the source of contamination or threat to the general public.

If needed, a Temporary Sheltering or Evacuation Plan should be considered until levels of contamination are reduced or contained and deemed safe by all responsible authorities. Confirmation of these levels will be done by generally approved monitoring methods agreed to by the authorities in charge.

Sheltering/Evacuation Plan:

_____
_____
_____
_____

Ordered By:_____

13. Site Control (and Security)

(1910.120(b)(4)(ii)(F))

Elements of the site control program.

The site control program shall, as a minimum, include: A site map; site work zones; the use of a "buddy system"; site communications including alerting means for emergencies; the standard operating procedures or safe work practices; and, identification of the nearest medical assistance. Where these requirements are covered elsewhere, they need not be repeated.

Upon notification of an emergency, immediate steps must be taken to control the site so that unsuspecting persons are not exposed or injured. These steps should be taken before any formal response measures can be implemented. A safe perimeter has to be established.

Site Map

A Site Map will be Included as an attachment to this plan.

Work Site Control & Zones

Control of the incident access and the hazardous perimeters around the hazards:

a) List the individual or agency designated to coordinate access control and security at the site

Security Company: _____

b) Establish a safe perimeter and describe its boundaries. Attach a site map/sketch which indicates boundaries and an emergency “muster” location:

See attached Map for Exclusion Zones and Muster location

Dated: _____

_____

Control Zones:

The first function that must be performed is to determine the extent of the hazardous area and all possible access points to this area. The size of the hazardous area shall be determined and access to the area controlled by the response team. The size determination should consider wind direction and the potential for wind shifts.

Response personnel will establish the Hot Zone(s) [exclusion areas which are hazardous/contaminated], the Warm Zone(s) [contamination reduction area for decontamination within the controlled area(s) adjacent to the hot zone], and the Cold Zone(s) [non-hazardous or clean area] for spaces outside of the hazardous/contaminated area(s) for incident support operations. Identify the boundaries and indicate the control zones on a site map or sketch.

The controlled boundaries are to be identified by using highly visible markings such as boundary/barricades tape, signs, traffic cones, etc. Materials and markings of the boundaries are described below:

_____

_____

14. Decontamination Procedures (See Section 5.5 Of The FRP) -- 1910.120(B)(4)(II)(G)

Standard operating procedures shall be developed to minimize employee contact with hazardous substances or with equipment that has contacted hazardous substances. Decontamination procedures must be in accordance with paragraph (k) of 29 CFR 1910.120.

Decontamination Procedures
Personnel and equipment leaving the spill site shall be thoroughly decontaminated at a specified location. Decontamination procedures are designed to prevent the spreading of contaminants into areas where it could become harmful to workers, equipment, facilities or the environment. Decon procedures prevent or minimize contamination of the workers' body and clothing. The objective of this procedure is to minimize the risk of exposure to hazardous substances. In addition to decontamination, remember good personal hygiene is needed to prevent the spread of contaminants. All decon waste will be handled and disposed in a regulatory approved manner. (Refer to Section 14 of this HASP for Decontamination Procedures and Section 5.5 Of The FRP). A map of the decontamination site should be attached at the end of this document.

Personal Decontamination:

Decontamination may be as simple as setting up containers for disposal of gloves and soap for cleaning hands as personnel leave the work zone. The process may be as complex as setting up multiple "decon" trailers or stations.

For most spills, the decontamination procedures will be addressed by the Incident Commander or Safety Officer. Industrial Hygienist can be utilized as a resource/advisor for decontamination procedures.

Equipment Decontamination:

All equipment contaminated during the response and cleanup must be decontaminated. Any equipment leaving the site must be decontaminated prior to leaving.

Some equipment such as spill boom may need to be sent off site for decontamination. In these instances, the equipment must be packaged in such a way to prevent any contamination off site.

(Contaminated personnel, surfaces, materials, instruments, and other equipment.)

_____

_____

_____

_____

DECONTAMINATION SOLUTIONS USED

_____

_____

DISPOSAL PROCEDURES

_____

_____

Authorized By: _____

EQUIPMENT DECONTAMINATION

	Clothing	SCBA/Resp.	Monitoring
Disposed:	_____	_____	_____
Cleaned:	_____	_____	_____
No Action:	_____	_____	_____

Specify: _____

_____

_____

_____

DATE PREPARED: _____ PREPARED BY: _____

Reviewed By: _____

Assistance in preparing this Safety Plan can be obtained from Haz Mat personnel.

15. Confined Space Entry

General Requirements

NuStar Regional locations must create a procedure for managing Permit Required Confined Spaces that shall incorporate, at a minimum, the requirements of this Safe Work Policy and meet the minimum governing regulated standards.

Each NuStar region or facility shall develop a Confined Space Procedure that is divided into three main sections, as follows: The three main sections are:

1. Duties of personnel and actions required prior to a permit being issued and entry taking place,

2. Duties of personnel during entry and work,

3. Duties of personnel upon completion, expiration, or cancellation of an entry permit.

Each confined space shall have a space specific hazard assessment completed. The hazard assessment shall be used to develop a safe work plan for that space. The following guidance provides information and special circumstances that shall be considered in the development of the safe work plan:

Floating Roofs

1. Access to any tank roof during adverse weather conditions is prohibited,

2. Entry onto an in-service aluminum IFR is prohibited unless engineered to to do,

3. A cribbing plan must be developed and implemented prior to any entry below a floating roof Confined space entry log

A daily confined space entry log form or equivalent, shall be issued to the confined space supervisor each day.

Confined spaces within another confined space

1. Certain situations require entrants to work inside a second confined space within a larger confined space (e.g.: accessing an IFR from the floor of a storage tank),

2. A second or separate entry permit is not required for the second confined space,

3. At minimum, one entrant into the second confined space shall maintain two-way radio communication with entry attendant.

Ventilation equipment

1. All ventilation equipment shall be bonded &/or grounded,

2. Ventilation shall be configured to create a negative pressure zone at the confined space entrance that will eliminate the possibility of harmful gases, vapors, fumes, or dusts from affecting the entry attendant,

3. Ventilation equipment used for cooling purposes shall be located to prevent drawing harmful gases, vapors, fumes, or dusts into the confined space.

Confined space rescue

All personnel who enter into a confined space should wear a Class “E” harness to aid in their possible rescue unless it creates additional hazards for the entrant or if after reviewing the job through a Job Safety Analysis (JSA) it is deemed unnecessary based on all hazards being eliminated.

The safe work plan shall make suitable provisions for confined space rescue using the following circumstances as guidance:

• Evacuation through self-rescue, assisted rescue, or retrieval

Evacuation is perhaps the lowest level of emergency response. Conditions that lead to an evacuation often arises in a manner that allows the Confined Space Entrants to escape without extraordinary effort.

Self-Rescue

The second level of emergency incidents is those where an entrant has received moderate injury. Typical injuries may include; sprains, minor fractures etc. This means that the injured entrant is still conscious and the degree of injury is such that they can still evacuate the space unaided.

Assisted Rescue from Outside the Space

Assisted rescue from outside usually involves a single entrant who may or may not be conscious. The entrant is wearing a full-body harness and is connected to a retrieval system located outside the space. In an emergency, the attendant operates the equipment, such as rescue tripod and winch, to pull the entrant from the space without the need for them to enter or by additional personnel.

Rescue Requiring Emergency Entry

Only performed by trained and authorized personnel.

Safe Work Permit

A safe work permit will be authorized for all non-emergency work within the terminal facility, including Confined Space.

16. Emergency Procedures

In the event of fire or explosion:

In the event of on-site medical emergency

In the event of additional on-site spill or material release:

17. Emergency Services

See ICS 206 Medical Plan for ambulance services and predesignated hospitals.

18. ATTACHMENT (___): HAZARDOUS SUBSTANCE INFORMATION SHEETS SDS/RIDS/CHRIS/CHEMTOX/TOMES/etc.

19. ATTACHMENT (___): HAZARD INFO FOR OILS CONTAINING BENZENE, TOLUENE, XYLENE, HEXANE, NAPTHALENE AND/OR NAPTHA

Oils and products that contain benzene, include: commercial JET A, aviation gasoline, and gas oils.

- These oils/products are composed of an indefinite petroleum distillate mixture. They may contain n-hexane, benzene, toluene, xylene, naphthalene and PolyAromatic Hydrocarbons (PAHs) in concentrations that may vary widely depending on the source of the oil, weathering and aging so you should always refer to the most current SDS for the product.

- HAZARD DESCRIPTION: These oils/products may cause dermatitis by skin contact; nausea by inhalation; and eye irritation. Benzene is a hematologic toxin (it affects the blood and blood forming organs), and is a carcinogen. The most important potential benzene, toluene, or xylene hazard is in poorly ventilated areas (such as pits or under docks), or around fresh spills. Benzo(a)pyrene is a skin contact hazard that may cause skin cancer. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates more slowly than other chemicals in the mixture.

- BASIC PRECAUTIONS: Stay away from, or upwind of, fresh spills; wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing; immediately change clothing that is showing evidence of product penetration or is torn; and wash skin with soap and water before changing into street clothing, before eating/drinking, or before exiting a contamination reduction zone. Flush eyes with water if oil gets in them. If ingested do not induce vomiting, contact a physician. Urine phenol should be tested as soon as possible (and not later than 72 hours after exposure) if there is a suspected exposure to benzene.

- MONITORING/EVALUATION INFORMATION FOR CERTAIN ASSOCIATED VAPOR HAZARDS (Taken from NIOSH Pocket Guide to Chemical Hazards--1990 DHHS-NIOSH Pub. No. 90-117). The following information is provided for some of the more significant components of crude oil and high vapor pressure petroleum products that produce some degree of vapor hazard. Most of these chemicals are found in small quantities in crude oil and evaporate quickly so that their hazard is most significant during the first hours/days of a spill and diminish rapidly with weathering.

BENZENE		**HEALTH EFFECTS/SYMPTOMS**
CAS:	71-43-2	Irritant, hematologic toxin, CNS toxin and carcinogen. Irritation of eyes, nose and respiratory system; giddiness; headache; nausea; staggered gait; fatigue; anorexia; dermatitis; and depression of the bone marrow.
PEL (8 hr):	1 ppm (OSHA)	
STEL (15 min):	5 ppm (OSHA)	
IDLH:	3000 ppm	
Vapor Pressure:	75 mmHg	
Flash Point:	12 deg F.	
LEL/UEL:	1.3% -- 7.9%	
Ionization Potential:	9.24 eV	

TOLUENE		**HEALTH EFFECTS/SYMPTOMS**
CAS:	108-88-3	CNS/liver/kidney/skin toxin. Fatigue; weakness; confusion euphoria; dizziness; headache; dilated pupils; lacrimation (watery eyes); nervousness; muscular fatigue; insomnia; paresthesia (burning, tingling, or numbness); and dermatitis.
PEL (8 hr):	100 ppm (OSHA)	
STEL (15 min):	150 ppm (OSHA)	
IDLH:	2000 ppm	
Vapor Pressure:	20 mmHg	
Flash Point:	40 deg F.	
LEL/UEL:	1.2% -- 7.1%	
Ionization Potential:	8.82 eV	

XYLENE (o-, m-, p- isomers)		**HEALTH EFFECTS/SYMPTOMS**
CAS:	1330-20-7	CNS/GI tract/liver/kidney/blood/skin/ eye toxin. Dizziness; excitement; drowsiness; in-coordination; staggering gait; irritation of the eyes, nose and throat; corneal vacuolization (formation of small spaces in the cornea); anorexia; nausea; abdominal pain; and dermatitis.
PEL (8 hr):	100 ppm (OSHA)	
STEL (15 min):	150 ppm (OSHA)	
IDLH:	1000 ppm	
Vapor Pressure:	7/9 mmHg (varies with isomer)	
Flash Point:	63/84 deg F.	
LEL/UEL:	1.0% -- 7.0%	
Ionization Potential:	8.44 or 8.8.56 eV	

n-HEXANE (HEXANE or NORMAL HEXANE)		**HEALTH EFFECTS/SYMPTOMS**
CAS:	110-54-3	Skin/eye/respiratory system toxin. Light headedness; nausea; headache; numbness of the extremities; muscular weakness; irritation of the eyes and nose; chemical pneumonia; giddiness and dermatitis.
PEL (8 hr):	50 ppm (OSHA)	
IDLH:	5000 ppm	
Vapor Pressure:	150 mmHg	
Flash Point:	-7 deg F.	
LEL/UEL:	1.1% -- 7.5%	
Ionization Potential:	10.18 eV	

NAPHTHALENE – Found in NALCO 5403 Corrosion Inhibitor		**HEALTH EFFECTS/SYMPTOMS**
CAS:	91-20-3	CNS/GI tract/liver/kidney/blood/skin/ eye toxin. Dizziness; excitement; drowsiness; incoordination; staggering gait; irritation of the eyes, nose and throat; corneal vacuolization (formation of small spaces in the cornea); anorexia; nausea; abdominal pain; and dermatitis.
PEL (8 hr):	10 ppm (OSHA)	
STEL (15 min):	15 ppm (OSHA)	
IDLH:	500 ppm	
Vapor Pressure:	0.08 mmHg	
Flash Point:	174 deg F.	
LEL/UEL:	0.9% -- 5.9%	
Ionization Potential:	7.30 eV	

PETROLEUM DISTILLATE (NAPHTHA) – Found in NALCO 5403 Corrosion Inhibitor		**HEALTH EFFECTS/SYMPTOMS**
CAS: PEL (8 hr):	8002-05-9 1600 MG/M3 (OSHA)	Irritant, CNS/respiratory toxin. Irritation of eyes, nose and throat; dizziness; drowsiness; headache; nausea; dermatitis.
REL (8 hr):	350 MG/M3 (NIOSH)	
IDLH:	10,000 ppm	
Vapor Pressure:	40 mmHg (varies with mixture)	
Flash Point:	-40 to -86 deg F.	
LEL/UEL:	1.1% -- 5.9%	
Ionization Potential:	varies	

ETHYL BENZENE		**HEALTH EFFECTS/SYMPTOMS**
CAS: PEL (8 hr):	100-41-4 435 MG/M3 (OSHA)	Irritant, CNS/respiratory toxin. Irritation of eyes, nose and throat; dizziness; drowsiness; headache; nausea; dermatitis.
REL (8 hr):	435 MG/M3 (NIOSH)	
IDLH:	800 ppm	
Vapor Pressure:	7 mm Hg (varies with mixture)	
Flash Point:	55 deg F.	
LEL/UEL:	0.8% -- 6.7%	
Ionization Potential:	varies	

STYRENE		**HEALTH EFFECTS/SYMPTOMS**
CAS: PEL (8 hr):	100-42-5 100 ppm (OSHA)	Irritant, CNS/respiratory toxin. Irritation of eyes, nose and throat; dizziness; drowsiness; headache; nausea; dermatitis. Potential liver injury and reproductive effects
REL (8 hr):	50 MG/M3 (NIOSH)	
IDLH:	700 ppm	
Vapor Pressure:	5 mmHg (varies with mixture)	
Flash Point:	88 deg F.	
LEL/UEL:	0.9% -- 6.8%	
Ionization Potential:	varies	

20. ATTACHMENT (___): HAZARD INFO FOR OILS (WITHOUT BENZENE)

Some oils that generally do not contain benzene (except as a minor constituent or contaminant), include: **kerosenes**, and **diesels**

- These oils are composed of an indefinite petroleum distillate content typically including Poly Aromatic Hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

- HAZARD DESCRIPTION: May cause dermatitis by skin contact; nausea by inhalation; and eye irritation by contact.

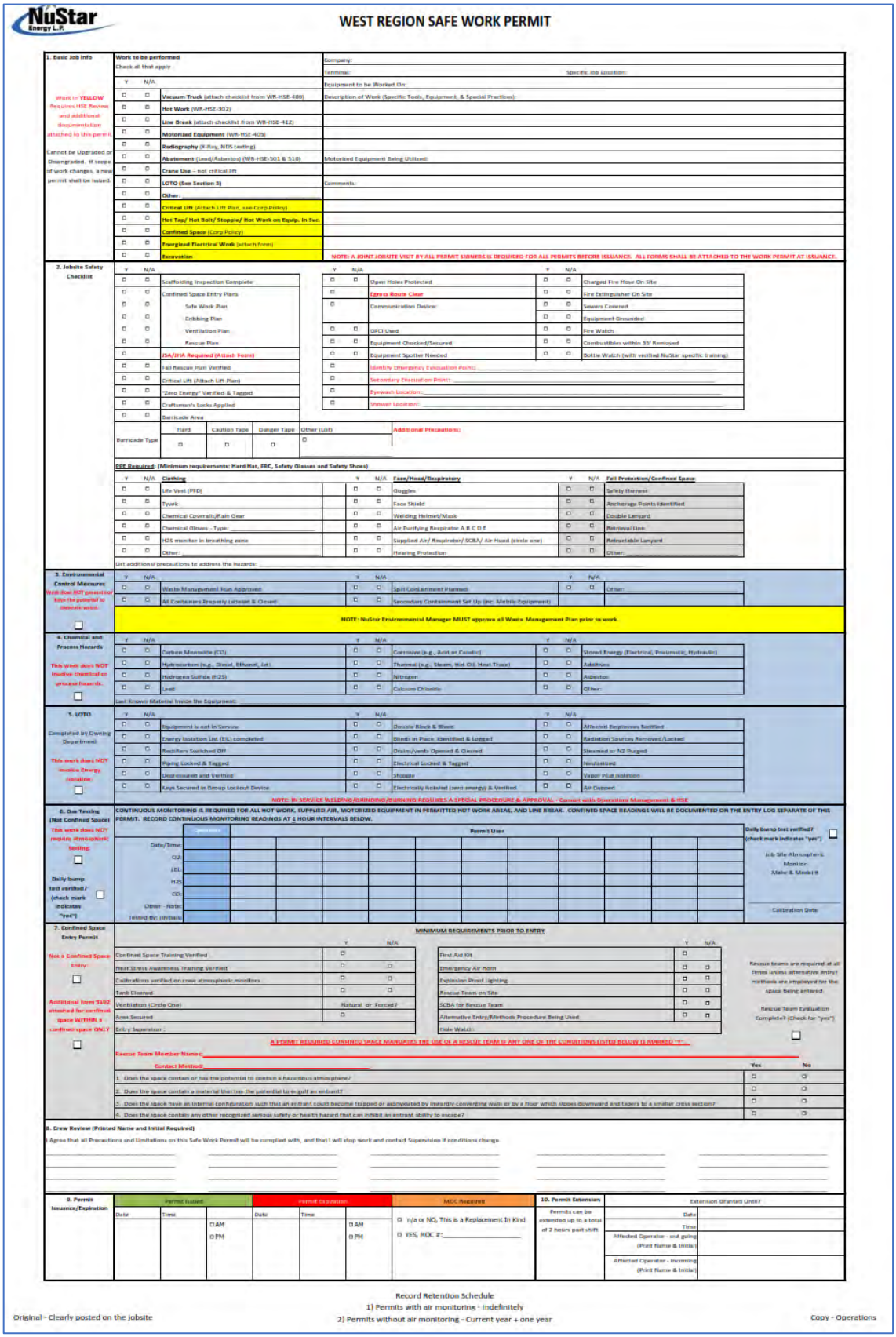
- BASIC PRECAUTIONS: Wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing; immediately change clothing that is showing evidence of product penetration or is torn; and wash skin with soap and water before changing into street clothing, before eating/drinking, or before exiting a contamination reduction zone. Flush eyes with water if oil gets in them. If ingested do not induce vomiting—contact a physician.

KEROSENE		**HEALTH EFFECTS/SYMPTOMS**
CAS: PEL (8 hr):	8008-20-6 n/a	Irritant, CNS/respiratory toxin. Headache; nausea; dermatitis.
REL (8 hr):	100 MG/M3 (NIOSH)	
IDLH:	n/a ppm	
Vapor Pressure:	3 x 10^{-7} mmHg (varies with mixture)	
Flash Point:	100 to 162 deg F.	
LEL/UEL:	0.7% -- 5.0%	
Ionization Potential:	varies	

DIPHENYL		**HEALTH EFFECTS/SYMPTOMS**
CAS: PEL (8 hr):	92-52-4 1 MG/M3 (OSHA)	Irritant, CNS/respiratory toxin. Headache; nausea; dermatitis; eye, nose, throat irritation. Numb limbs and liver damage.
REL (8 hr):	1 MG/M3 (NIOSH)	
IDLH:	100 ppm	
Vapor Pressure:	0.005 mmHg (varies with mixture)	
Flash Point:	235 deg F.	
LEL/UEL:	0.6% -- 5.8%	
Ionization Potential:	varies	

21. ATTACHMENT (___): SITE SAFETY MAP(S)

22. ATTACHMENT (___): CONFINED SPACE ENTRY PERMIT AND LOG



NuStar Energy L.P.

WEST REGION SAFE WORK PERMIT

1. Basic Job Info

Work on YELLOW requires HSE Review and additional documentation attached to this permit.

Cannot be Upgraded or Downgraded. If scope of work changes, a new permit shall be issued.

Work to be performed
Check all that apply

Y	N/A		
☐	☐	**Vacuum Truck** (attach checklist from WR-HSE-609)	
☐	☐	**Hot Work** (WR-HSE-302)	
☐	☐	**Line Break** (attach checklist from WR-HSE-412)	
☐	☐	**Motorized Equipment** (WR-HSE-405)	
☐	☐	**Radiography** (X-Ray, NDS testing)	
☐	☐	**Abatement** (Lead/Asbestos) (WR-HSE-501 & 510)	
☐	☐	**Crane Use** – not critical lift	
☐	☐	**LOTO (See Section 5)**	
☐	☐	**Other:**	
☐	☐	**Critical Lift** (Attach Lift Plan, see Corp Policy)	
☐	☐	**Hot Tap/ Hot Bolt/ Stopple/ Hot Work on Equip. in Svc.**	
☐	☐	**Confined Space** (Corp Policy)	
☐	☐	**Energized Electrical Work** (attach form)	
☐	☐	**Excavation**	

Company:
Terminal: Specific Job Location:
Equipment to be Worked On:
Description of Work (Specific Tools, Equipment, & Special Practices):
Motorized Equipment Being Utilized:
Comments:

NOTE: A JOINT JOBSITE VISIT BY ALL PERMIT SIGNERS IS REQUIRED FOR ALL PERMITS BEFORE ISSUANCE. ALL FORMS SHALL BE ATTACHED TO THE WORK PERMIT AT ISSUANCE.

2. Jobsite Safety Checklist

Y	N/A		Y	N/A		Y	N/A	
☐	☐	Scaffolding Inspection Complete	☐	☐	Open Holes Protected	☐	☐	Charged Fire Hose On Site
☐	☐	Confined Space Entry Plans	☐		Egress Route Clear	☐	☐	Fire Extinguisher On Site
☐	☐	Safe Work Plan	☐		Communication Device:	☐	☐	Sewers Covered
☐	☐	Cribbing Plan				☐	☐	Equipment Grounded
☐	☐	Ventilation Plan	☐	☐	GFCI Used	☐	☐	Fire Watch
☐	☐	Rescue Plan	☐	☐	Equipment Chocked/Secured	☐	☐	Combustibles within 35' Removed
☐		JSA/JHA Required (Attach Form)	☐	☐	Equipment Spotter Needed	☐	☐	Bottle Watch (with verified NuStar specific training)
☐	☐	Fall Rescue Plan Verified	☐		Identify Emergency Evacuation Points:			
☐	☐	Critical Lift (Attach Lift Plan)	☐		Secondary Evacuation Point:			
☐	☐	"Zero Energy" Verified & Tagged	☐		Eyewash Location:			
☐	☐	Craftsman's Locks Applied	☐		Shower Location:			
☐	☐	Barricade Area						

Barricade Type	Hard	Caution Tape	Danger Tape	Other (List)
	☐	☐	☐	☐

Additional Precautions:

PPE Required: (Minimum requirements: Hard Hat, FRC, Safety Glasses and Safety Shoes)

Y	N/A	Clothing	Y	N/A	Face/Head/Respiratory	Y	N/A	Fall Protection/Confined Space
☐	☐	Life Vest (PFD)	☐	☐	Goggles	☐	☐	Safety Harness
☐	☐	Tyvek	☐	☐	Face Shield	☐	☐	Anchorage Points Identified
☐	☐	Chemical Coveralls/Rain Gear	☐	☐	Welding Helmet/Mask	☐	☐	Double Lanyard
☐	☐	Chemical Gloves - Type:	☐	☐	Air Purifying Respirator A B C D E	☐	☐	Retrieval Line
☐	☐	H2S monitor in breathing zone	☐	☐	Supplied Air/ Respirator/ SCBA/ Air Hood (circle one)	☐	☐	Retractable Lanyard
☐	☐	Other:	☐	☐	Hearing Protection:	☐	☐	Other:

List additional precautions to address the hazards:

3. Environmental Control Measures

Work that NOT planned or has the potential to generate waste.

Y	N/A		Y	N/A		Y	N/A	
☐	☐	Waste Management Plan Approved	☐	☐	Spill Containment Planned	☐	☐	Other:
☐	☐	All Containers Properly Labeled & Closed	☐	☐	Secondary Containment Set Up (inc. Mobile Equipment)			

NOTE: NuStar Environmental Manager MUST approve all Waste Management Plan prior to work.

☐

4. Chemical and Process Hazards

This work does NOT involve chemical or process hazards.

Y	N/A		Y	N/A		Y	N/A	
☐	☐	Carbon Monoxide (CO)	☐	☐	Corrosive (e.g., Acid or Caustic)	☐	☐	Stored Energy (Electrical, Pneumatic, Hydraulic)
☐	☐	Hydrocarbon (e.g., Diesel, Ethanol, Jet)	☐	☐	Thermal (e.g., Steam, Hot Oil, Heat Trace)	☐	☐	Additives
☐	☐	Hydrogen Sulfide (H2S)	☐	☐	Nitrogen	☐	☐	Asbestos
☐	☐	Lead	☐	☐	Calcium Chloride	☐	☐	Other:

Last Known Material Inside the Equipment:

☐

5. LOTO

Completed by Owning Department.

This work does NOT involve Energy Isolation.

Y	N/A		Y	N/A		Y	N/A	
☐	☐	Equipment is not in Service	☐	☐	Double Block & Bleed	☐	☐	Affected Employees Notified
☐	☐	Energy Isolation List (EIL) completed	☐	☐	Blinds in Place, Identified & Logged	☐	☐	Radiation Sources Removed/Locked
☐	☐	Rectifiers Switched Off	☐	☐	Drains/vents Opened & Cleared	☐	☐	Steamed or N2 Purged
☐	☐	Piping Locked & Tagged	☐	☐	Electrical Locked & Tagged	☐	☐	Neutralized
☐	☐	Depressured and Verified	☐	☐	Stopple	☐	☐	Vapor Plug Isolation
☐	☐	Keys Secured in Group Lockout Device	☐	☐	Electrically Isolated (zero energy) & Verified	☐	☐	Air Gapped

NOTE: IN SERVICE WELDING/GRINDING/BURNING REQUIRES A SPECIAL PROCEDURE & APPROVAL - Consult with Operations Management & HSE

6. Gas Testing (Not Confined Space)

This work does NOT require atmospheric testing.

Daily bump test verified? (check mark indicates "yes") ☐

CONTINUOUS MONITORING IS REQUIRED FOR ALL HOT WORK, SUPPLIED AIR, MOTORIZED EQUIPMENT IN PERMITTED HOT WORK AREAS, AND LINE BREAK. CONFINED SPACE READINGS WILL BE DOCUMENTED ON THE ENTRY LOG SEPARATE OF THIS PERMIT. RECORD CONTINUOUS MONITORING READINGS AT 1 HOUR INTERVALS BELOW.

Location	Permit User											
Date/Time												
O2:												
LEL:												
H2S:												
CO:												
Other - Note:												
Tested By: (Initials)												

Daily bump test verified? (check mark indicates "yes") ☐

Job Site Atmospheric Monitor: Make & Model #

Calibration Date

7. Confined Space Entry Permit

Not a Confined Space Entry:

Additional form SAFE attached for confined space WITHIN a confined space ONLY

MINIMUM REQUIREMENTS PRIOR TO ENTRY

Y	N/A		Y	N/A	
	☐	Confined Space Training Verified	☐		First Aid Kit
	☐	Heat Stress Awareness Training Verified	☐	☐	Emergency Air Horn
	☐	Calibrations verified on crew atmospheric monitors	☐	☐	Explosion Proof Lighting
	☐	Tank Cleaned	☐	☐	Rescue Team on Site
		Ventilation (Circle One)	Natural or Forced?		SCBA for Rescue Team
	☐	Area Secured	☐	☐	Alternative Entry/Methods Procedure Being Used
		Entry Supervisor:		☐	Hole Watch:

Rescue teams are required at all times unless alternative entry/ methods are implemented for the space being entered.

Rescue Team Evaluation Complete? (Check for "yes") ☐

A PERMIT REQUIRED CONFINED SPACE MANDATES THE USE OF A RESCUE TEAM IF ANY ONE OF THE CONDITIONS LISTED BELOW IS MARKED "Y".

Rescue Team Member Names:

Contact Method:

	Yes	No
1. Does the space contain or has the potential to contain a hazardous atmosphere?	☐	☐
2. Does the space contain a material that has the potential to engulf an entrant?	☐	☐
3. Does the space have an internal configuration such that an entrant could become trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section?	☐	☐
4. Does the space contain any other recognized serious safety or health hazard that can inhibit an entrant ability to escape?	☐	☐

8. Crew Review (Printed Name and Initial Required)

I Agree that all Precautions and Limitations on this Safe Work Permit will be complied with, and that I will stop work and contact Supervision if conditions change.

9. Permit Issuance/Expiration

Permit Issued			Permit Expiration			MOC Required	10. Permit Extension	Extension Granted Until?	
Date	Time	☐ AM ☐ PM	Date	Time	☐ AM ☐ PM	☐ n/a or NO, This is a Replacement In Kind ☐ YES, MOC #:	Permits can be extended up to a total of 2 hours past shift.	Date	
								Time	
								Affected Operator - out going (Print Name & Initial)	
								Affected Operator - incoming (Print Name & Initial)	

Record Retention Schedule
1) Permits with air monitoring - Indefinitely
2) Permits without air monitoring - Current year + one year

Original - Clearly posted on the jobsite

Copy - Operations

NuStar

Confined Space Entry Log

Permit to Work #	Equipment:	Effective Date & Time:
Location:		Expires Date & Time:

Entry Attendant Sign-In / Sign-Out (CLEAR SAFETY GLASSES ARE REQUIRED FOR THE ATTENDANT)

Name (please print)	On Duty	Off Duty	On Duty	Off Duty	On Duty	Off Duty	On Duty	Off Duty

Entry Supervisor(s) (please print)

Authorized Entrants Sign-In / Sign-Out (Entrants can only be approved and added by NuStar)

Name (please print)	Entry Time	Exit Time	Entry Time	Exit Time	Entry Time	Exit Time	Entry Time	Exit Time

Monitoring Test (continous monitoring is required)

Readings must be taken and recorded before entering an unoccupied tank. Occupied tanks must have readings recorded every hour.

NUSTAR INSTRUMENT USED (make & serial #):	CONTRACTOR INSTRUMENT USED (make & serial #):
Last Calibration Date:	Last Calibration Date:

Permissible Entry Level

Person Monitoring	Time	Percent of Oxygen (19.5%-23.5%)	Lower Explosive Limit (<10%)	Hydrogen Sulfide (<10 PPM)	CO (<35 PPM)
Initial-					
Entry-					

Entry Supervisor Signature: **Date:**

Nustar Signature: **Print Name:** **Date:**

Created: 6/17/2014 Revised: 10/23/2014

23. ATTACHMENT (___): HEAT STRESS CONSIDERATIONS

(taken from NIOSH 86-112) **Page 1 of 5**

HEAT STRESS CONSIDERATIONS: The Safety Officer for the response should make heat stress determinations throughout the day per the requirements set forth in WAC-296-62-09510.

- **SAFETY CONCERNS: W**orking in a hot environment lowers the mental alertness and physical performance of an individual. Increased body temperature and physical discomfort promote irritability, anger, and other emotional states which sometimes causes workers to overlook safety procedures or to divert attention from hazardous tasks.

- **HEALTH CONCERNS:** Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders.

  - **Heat Stroke:**

    - Signs and Symptoms:

      - A heat stroke victim's skin is hot, usually dry, red or spotted
      - Body temperature is usually 105 degrees F or higher
      - The victim is mentally confused, delirious, perhaps in convulsions, or unconscious

    - Any person with signs or symptoms of heat stroke ***REQUIRES IMMEDIATE HOSPITALIZATION!!***

      While waiting for medical assistance first aid should be immediately administered. This includes:

      - Removing the victim to a cool area
      - Thoroughly soaking the clothing with water
      - Vigorously fanning the body to increase cooling

- **HEAT EXHAUSTION:**

  - Signs and Symptoms:

    - Still sweating; but
    - Experiences extreme weakness or fatigue, giddiness, nausea, or headache

    In more serious cases:

    - The victim may vomit or lose consciousness
    - The skin is clammy and moist
    - The complexion is pale or flushed
    - The body temperature is normal or only slightly elevated

  - Medical Attention. General treatment:

    - Notify first responders
    - Have the victim rest in a cool place
    - Have the victim drink plenty of liquids

    Victims with mild cases of heat exhaustion usually recover spontaneously with this treatment. Those with severe cases may require extended care for several days. There are no known permanent effects.

CAUTION—PERSONS WITH HEART PROBLEMS OR THOSE ON A “LOW SODIUM” DIET WHO WORK IN HOT ENVIRONMENTS SHOULD CONSULT A PHYSICIAN ABOUT WHAT TO DO UNDER THESE CONDITIONS.

- **Heat Cramps:**
  - Signs and Symptoms:
    - painful spasms of the muscles that occur among those who sweat profusely in heat, drink large quantities of water, but do not adequately replace the body's salt loss.
  - Medical Attention: Cramps may occur during or after work hours and may be relieved by taking salted liquids by mouth.
- **Fainting:** A worker who is not accustomed to hot environments and who stands erect and immobile in the heat may faint.
  - Signs and Symptoms:
    - Loss of consciousness
  - Medical Attention: Upon lying down, the worker should soon recover. By moving around, and thereby preventing blood from pooling, the patient can prevent further fainting.
- **Heat Rash:**
  - Signs and Symptoms:
    - Skin rash
    - When the rash is extensive or when it is complicated by infection, prickly heat can be very uncomfortable and may reduce a worker's performance.
  - Medical Attention: Workers can prevent this by resting in a cool place part of each day and by regularly bathing and drying the skin.
- **Transient Heat Fatigue:** Transient heat fatigue refers to the temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. This is accommodated utilizing an acclimatization program..

- **PREPARING FOR WORK IN THE HEAT:** One of the best ways to reduce the heat stress of workers is to minimize heat in the workplace. However, at oil spills heat is difficult to control, while working outdoors and exposed to various weather conditions.

  Workers who return to work after vacation or extended illness may be affected by the heat in the work environment in addition to those who have not been away but are tasked with utilizing heavy or non-breathable clothing, prolonged exertion, etc. Whenever such circumstances occur, the worker should be gradually acclimatized to the hot environment.

- **ADMINISTRATIVE CONTROLS:** Heat stress depends, in part, on the amount of heat the worker's body produces while a job is being performed. The amount of heat produced during hard, steady work is much higher than that produced during intermittent or light work. Therefore, one way of reducing the potential for heat stress is to make the job easier or lessen its duration by providing adequate rest time. Implementing an administrative control through work procedures can often make it possible to isolate workers from the heat source and increase overall productivity by decreasing the time needed for rest.

- **WORK/REST PERIODS:** Rather than be exposed to heat for extended periods of time during the course of a job, workers must be permitted to distribute the workload evenly over the day and incorporate work-rest cycles, cooldown periods or regular (and enforced) breaks. Work-rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, and provide greater blood flow to the skin.

  Providing cool rest areas in hot work environments considerably reduces the stress of working in those environments. Rest areas should be as close to the work area as possible, and provide shade. Shorter but frequent work-rest cycles are the greatest benefit to the worker.

- **DRINKING FLUIDS:** In the course of a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced.

  Most workers exposed to hot conditions drink less fluids than needed because of an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink.

5 to 7 ounces of fluids should be consumed every 15 to 20 minutes to replenish the necessary fluids in the body.

There is no optimum temperature of drinking water, but most people tend not to drink warm or very cold fluids as readily as they will cool ones.

Heat acclimatized workers lose much less salt in their sweat than do workers who are not adjusted to the heat. The average American diet contains sufficient salt for acclimatized workers even when sweat production is high. If for some reason, salt replacement is required, the best way to compensate for the loss is to add a little extra salt to the food.

Salt tablets SHOULD NOT be used.

CAUTION—PERSONS WITH HEART PROBLEMS OR THOSE ON A "LOW SODIUM" DIET WHO WORK IN HOT ENVIRONMENTS SHOULD CONSULT A PHYSICIAN ABOUT WHAT TO DO UNDER THESE CONDITIONS.

- **PROTECTIVE CLOTHING AND HEAT STRESS: I**n hot jobs where the air temperature is lower than skin temperature, wearing clothing reduces the body's ability to lose heat into the air. When air temperature is higher than skin temperature, clothing helps to prevent the transfer of heat from the air to the body. The advantage of wearing additional clothes, however, may be nullified if the chemical protective clothes interferes with the evaporation of sweat.

24. ATTACHMENT (___): COLD STRESS & HYPOTHERMIA

Frostbite and hypothermia are major hazards of working in cold temperatures. A cold environment can reduce the temperature of the body and cause shivering, reduced mental alertness, and even loss of consciousness. However, a healthy worker who is properly protected and takes reasonable precautions can function efficiently and safely in cold environments.

FACTORS AFFECTING COLD EXPOSURES

- Important Factors Contributing to Cold Injury:
  - Exposure to humidity and high winds, contact with moisture or metal, inadequate clothing, age and general health.

  Physical conditions that worsen the effects include:

  - Fatigue, allergies, vascular disease, smoking, drinking and certain specific drugs or medicines.

- Important Warnings:
  - Pain in the extremities may be the first warning of dangerous exposure to cold.
  - Severe shivering must be taken as a sign of danger requiring removal from the cold exposure.
  - A worker should go immediately to a warming shelter if any of the following symptoms occur:
    - Pain in the extremities (or frostnip), onset of heavy shivering, excessive fatigue, drowsiness
    - Euphoria
  - Hypothermia/Cold Stress victims must be re-warmed, but must not be re-warmed too fast.

- **HYPOTHERMIA**: Hypothermia is an abnormally low body temperature caused by exposure to cold in air or in water. Hypothermia results as the body loses heat faster than it can produce it. Air temperature alone is not enough to judge the cold hazard of a particular environment. Hypothermia cases often develop in air temperatures between 30-50 degrees Fahrenheit. When you figure in such factors as wind chill, the effective temperature can be significantly lower.

  - Early Warnings of Hypothermia Are:

    - Uncontrollable shivering and the sensation of cold.
    - The heartbeat slows and sometimes becomes irregular, the pulse weakens, and the blood pressure changes.
    - Fits of shivering, vague or slurred speech, memory lapses, incoherence, or drowsiness are some symptoms which may occur.
    - Other symptoms which may be seen before unconsciousness are cool skin, slow, irregular breathing, low blood pressure, apparent exhaustion, and inability to get up after a rest.

  - First Aid for Hypothermia: The main objective in handling potential cases of hypothermia is re-warming the body core evenly and without delay. However, doing it too rapidly can disrupt body functions such as circulation.

    - The outer layer of clothing should be removed when entering a warm shelter and the remaining clothing should be loosened to permit sweat to evaporate.
    - Alcohol should not be consumed while in the warm environment.
    - If medical help is not immediately available:

      - Keep the person quiet, but keep them awake, if possible.
      - Avoid unnecessary movement.

      In a case of mild hypothermia where the person is conscious, the body may be packed with heat packs or warm towels at the neck, groin and armpits.

      - As the extremities begin to recover warmth give conscious victims sweet, warm drinks. Avoid caffeine or alcoholic drinks.
      - Don't re-warm the core and the extremities at the same time. The sudden return of the cool blood pooled in the extremities to the heart can cause shock.

- Water Immersion Victims: Flotation is the most important factor in water immersion survival, but may not be available if not provided in advance (see protective clothing notes below).
  - It is especially important to keep your head dry.
  - Avoid thrashing about and assume the HELP position (Heat Escape Lessening Posture) by crossing your wrists over your chest and drawing your knees close to your chest to avoid losing excess body heat. By using the HELP position, the head, neck, armpit and groin areas are protected which are all high heat loss areas.
  - If others are in the water with you, huddle together to reduce heat loss, aid in rescue, and boost morale.

OTHER COLD STRESS INJURIES:

- Frostbite
  - Symptoms:
    - Whitened areas on skin
    - Burning sensation at first
    - Blistering
    - Affected part cold, numb and tingling
  - Treatment: Do NOT attempt to rewarm if there is a chance of re-freezing.
    - Cover the frozen part
    - Provide extra clothing and blankets
    - Bring person indoors
    - Place the part in warm water or rewarm with warm packs
    - If no water is available, wrap gently in a sheet and blanket or place frostbitten fingers under armpits
    - Discontinue warming when the affected part becomes flushed and swollen
    - Exercise part after rewarming but do not allow the person to walk after the affected part thaws
    - Give sweet warm fluids to conscious person
    - If feet are affected, put on dry socks over footwear
    - If cheeks are affected, cover cheeks with warm hands
    - Do not rub the part with anything
    - Do not use heat lamp, hot water bottles, place part near stove or break blisters
    - Obtain medical assistance ASAP

- Chilblain
  - Symptoms:
    - Recurrent localized itching, swelling and painful inflammation of the fingers, toes, or ears
    - Severe spasms
  - Treatment:
    - Remove to warmer area
    - Consult physician
- Frostnip
  - Symptoms: Skin turns white
  - Treatment:
    - Remove to warmer area
    - Refer to treatment for frostbite
- Acrocyanosis
  - Symptoms: Hands and feet are cold, blue and sweaty
  - Treatment:
    - Remove to warmer area
    - Loosen tight clothing
    - Consult physician
- Trench Foot
  - Symptoms:
    - Edema (swelling) of the foot
    - Tingling, itching
    - Severe pain
    - Blistering
  - Treatment:
    - Remove to warmer area
    - Refer to frostbite treatment
    - Consult physician

- Raynaud's Disease
  - Symptoms:
    - Fingers turn white and stiff
    - Intermittent blanching and reddening of the fingers and toes
    - Affected area tingles and becomes very red or reddish purple
  - Treatment:
    - Remove to warmer area
    - Consult physician

PREVENTING COLD STRESS

- Prevent dehydration
- Provide warm locations for breaks
- Provide wind breaks & shelters
- Schedule coldest work for the warmest part of the day
- Move work to warmer areas whenever possible
- Assign extra workers to highly demanding tasks
- Relief workers available for workers needing a break
- Enforce the Buddy System
- Minimize sitting/standing still for long periods
- Older workers need to be extra careful in the cold
- Sufficient sleep and good nutrition are important for maintaining a high level of tolerance to cold
- Provide appropriate protective clothing/equipment
  - Priority clothing includes protection of FEET, HANDS, HEAD and FACE. Keeping the head covered is important because as much as 40% of body heat can be lost when the head is exposed.
- Ensembles for Work When Water Immersion May Occur:
  - Air trapped between layers of clothing will provide buoyancy and heat insulation, but Personal Flotation Devices (PFDs) offer the best chance for survival in cold water. Type III PFDs include float coats and mustang suits which provide floatation and thermal protection.
  - Preposition throwable floatation devices in boats or work areas near water.
  - Flotation (personal or throwable devices)

25. ATTACHMENT (___): SANITATION REQUIREMENTS

☐ **POTABLE WATER:** An adequate supply of potable water, or other drinking fluids, shall be maintained at all times throughout the site. Containers for drinking fluids shall be capable of being tightly closed, and equipped with a cap. These containers must also be labeled in such a manner that the contents are not accidentally used for other purposes. Where single service cups are supplied, the unused cups shall be maintained in sanitary containers; and a separate disposal container provided for used cups.

☐ **NON-POTABLE WATER:** Water intended for uses other than drinking or washing shall be identified in a way that it is not accidentally used for drinking, washing, or cooking. There shall be no cross-connection of potable and non-potable water supplies.

☐ **TOILET FACILITIES:** Toilet facilities shall be provided at a minimum in accordance with Table H-120.2 (Toilet Facilities) of 29 CFR 1910.120(n).

20 or fewer people	1 facility
20-200 people	1 toilet seat and 1 urinal per 40 persons
more than 200 people	1 toilet seat and 1 urinal per 50 persons

☐ Toilets shall be provided such that they are readily accessible from all work areas. Mobile crews with ready access to toilet facilities using their own transportation, do not need to have toilet facilities located at their temporary work sites.

☐ Sewage shall be handled in accordance with local health codes using one of the following means:

- ☐ Sanitary sewer
- ☐ Chemical toilets
- ☐ Recirculating toilets
- ☐ Composting toilets, or flush toilets

☐ **FOOD HANDLING:** Shall be conducted in accordance with the requirements of local jurisdiction.

☐ **WASHING FACILITIES:** Washing facilities shall be readily accessible by all employees. In addition to sanitary cleaning, these facilities shall be so equipped that they can be used to remove oily residues from the skin. Washing facilities shall be maintained free of contaminants above exposure limits, and as free as practical from oily residues.

☐ **SHOWERS:** For operations lasting more than 6 months, showers and changing rooms must be provided in accordance with 29 CFR 1910.120(n)(7); and 29 CFR 1910.141(d)(3), 1910.141(e), WAC-296-800-230, WAC-296-843, and T8 CCR 5192.

26. ATTACHMENT (___): SAFE WORK PRACTICES

(1) When manually lifting an object, bend your knees, keep your back straight, and use your legs to lift. Do not twist or move your feet. For a heavy object, normally 50 pounds or more, get help.

(2) Improper lifting techniques are the cause of many serious injuries.

(3) When lifting follow these simple rules to avoid injuring your back:

  (a) Use hoists, cranes, winches or other mechanical equipment or get help to lift any load that is too bulky or too heavy.

  (b) Bend your knees to pick up any object, no matter how light. Lift with your legs, not with your back.

  (c) Space your feet approximately shoulder width apart for good balance.

  (d) Get a firm grip on the load before the lift is attempted.

  (e) Test the load by lifting one corner or end.

  (f) Take a deep breath prior to lifting. This helps support your spine.

  (g) Do not twist your body at the waist while lifting.

(4) Do not attempt to lift a load which is beyond your personal lifting capability. Obtain help if needed.

(5) Never carry an object that prevents you from seeing where you are going.

(6) Do not throw objects to another person.

(7) Avoid throwing material from elevations unless specifically authorized by the Terminal Manager, designee, or Incident Commander. It is required that the area into which material is thrown be roped off or guarded to keep persons out.

(8) Keep your hands and fingers out of the ends of pipe, flanges, and other tubular materials.

(9) When rolling a drum on its side, push with your hands against the sides of the drum. Never grasp the ends of the drum, or use your feet to push it.

(10) When two or more persons carry a long object, carry it from the same side of the object. The person in the rear gives the sign for lifting, carrying, or lowering.

27. ATTACHMENT (___): SAFE WORK PRACTICES FOR HELICOPTERS

☐ **BASIC SAFE WORK PRACTICES FOR ALL PASSENGERS/GROUND CREWS:**

- ☐ Passengers should receive a safety briefing from helicopter operators including safety features and equipment, their location on the individual aircraft, water landing procedures when appropriate, and emergency information cards before taking off.
- ☐ Passengers or ground crew members approaching helicopters shall stay in a crouched position, and shall be in clear view of the pilot while approaching or departing a helicopter.
- ☐ Passengers and ground crew should approach/depart from the FRONT of the helicopter ONLY when signaled by the pilot; and should NEVER walk under or around the tail.
- ☐ Loose fitting clothing, hats, hard hats, or other gear which might be caught in rotor down wash must be secured or removed within 100 feet of operating helicopters.
- ☐ Passengers shall maintain a distance of 50 feet from helicopters while rotors are turning. Ground crew should also maintain this distance unless specific work practices are developed for closer work.
- ☐ Passengers shall wear seat belts at all times.
- ☐ Passengers and ground crew shall wear hearing protection (including communications headsets or helmets) at all times around operating helicopters.
- ☐ Passengers shall generally assist the pilot in watching for other traffic or ground obstacles as directed by the pilot.
- ☐ During emergency landings in water:
  - ☐ Do not exit until rotor blades stop turning or pilot signals all clear
  - ☐ Do not inflate life preservers until outside of the helicopter

☐ **SAFE WORK PRACTICES FOR CARGO HANDLING ARE FOUND IN 29 CFR 1910.183 AND INCLUDE:**

- ☐ Use proper slings and tag lines in accordance with 29 CFR 1910.183(c) and 1910.184.
- ☐ Testing and use of cargo hooks and electrically operated cargo hooks shall be performed in accordance with 29 CFR 1910.183(d) and (i).
- ☐ Static charge on suspended loads shall be dissipated with a grounding device before ground crew touch the suspended load unless protective rubber gloves are being worn.
- ☐ External loads shall not be lifted unless determined to be within the helicopter manufacturer's recommended rating.
- ☐ Communications shall be maintained in accordance with 29 CFR 1910.183.
- ☐ Ground and flight crew members shall be familiar with, and use the manual signaling system described in 29 CFR 1910.183.

28. ATTACHMENT (___): SAFE WORK PRACTICES FOR SMALL BOATS

Ensure that all boats comply with the appropriate state and federal regulations. In addition to the items discussed below certain types of vessels will require such items as USCG approved fire extinguishers, backfire flame control, powered ventilation, sound signaling devices (different from emergency signals), navigation lights/ signals, pollution placards, and marine sanitation devices.

Boat operators should familiarize themselves, and passengers with safety features and equipment on their boats.

Boats should be operated by qualified individuals.

Life jackets, work vests, Mustang suits, or other appropriate Coast Guard approved Personal Flotation Devices (PFDs) should be worn by personnel in small boats.

- Use of mustang suits are particularly critical under conditions of cold stress
- Types of Personal Flotation Devices (PFDs):
  - TYPE I. Off-shore life jacket provides the most buoyancy. It is effective for all waters and intended specifically for open, rough or remote waters where rescue may be delayed.
  - TYPE II. Near-shore buoyancy vests are intended for calm, inland water or where there is a good chance of quick rescue.
  - TYPE III. Flotation aids are good for calm, inland water, or where there is a good chance of quick rescue. Examples: float coats, fishing vests and ski vests.
  - TYPE IV. These are throwable devices, not intended to be worn or to replace those that are worn.
  - TYPE V--SPECIAL USE. These are intended for specific activities (according to the conditions on the labels). Some examples: deck suits, mustang suits, work vests and hybrid PFDs below.
  - TYPE V--HYBRID INFLATABLES. These PFDs contain a small amount of inherent buoyancy and an inflatable chamber. Performance equals that of a Type I, II, or III PFD (as noted on the label) WHEN INFLATED.

Small boats should generally not be operated for oil recovery after sunset. If this is required or poses minimal risk, routes of operations should be carefully prescribed, individual boats should maintain a communication schedule with a shore base; and should be fully equipped with appropriate running lights, emergency signals, and personnel onboard should be wearing emergency night signaling devices.

Distress signals (three or more for day and three or more for night) should be carried onboard all vessels. These devices may be required by regulation. They may be stored onboard or issued to individuals. If stored onboard they should be in a sealed, watertight, orange container marked "DISTRESS SIGNALS".

- USCG approved pyrotechnic visual distress signals include red flares (hand-held or aerial), orange smoke (hand-held or floating) and launchers (for aerial red meteors or parachute flares).

PYROTECHNIC DEVICES SHOULD NOT BE USED NEAR FLAMMABLE PRODUCT SPILLS.

- Non-pyrotechnic distress signals are not approved individually but need to meet certain requirements. They should be in serviceable condition, readily accessible, and certified by the manufacturer as complying with USCG requirements. These devices include orange distress flags and electric distress lights.

- Distress flags are day signals only. They must be at least 3 x 3 feet with a black square and ball on an orange background.

    - Electric distress lights are for night use only. These devices automatically flash the international SOS code (... _ _ _ ...) so a flashlight IS NOT considered a distress signal. Under inland navigation rules a high intensity strobe light is considered a distress signal.

    - It is a violation of regulations to display visual distress signals on the water except when assistance is required.

    Boat operators must keep their supervisors informed of their area of operations, especially when they change their work area (if plans call for a boat to move to another location during a shift, the operator should advise their supervisor of their actual time of departure).

Boat operators should never anchor their boats by the stern. This is typically the lowest point on the boat due to design and/or loading, and is often squared off making it vulnerable to swamping.

Portable fuel tanks should be filled outside of the boat. All sources of ignition in the area of fueling (e.g., engines, stoves or heat producing equipment and electrical equipment) should be secured while fueling.

Strict adherence to the buddy system must be observed in small boats; and all boats should be in direct visual or radio contact with a shore base at all times.

To avoid slipping on wet decks or falling in small boats, personnel should remain seated while boat is underway. Horseplay and speeding must be strictly prohibited. Personnel should keep their center of gravity as low as possible while working in small boats.

Boat operators must also ensure that boats are not overloaded. The capacity should be marked on a label on the boat. If it is not a general rule of thumb is:

LENGTH x WIDTH / 15 = PEOPLE (150 lbs)

Since equipment adds to the weight it should be considered as well. Weight should be distributed evenly.

Personnel working in or operating small boats should be equipped with appropriate shoes/boots designed to help maintain traction on wet surfaces.

Safety sunglasses, and hearing protection should be worn by personnel working in or operating small boats where appropriate.

Fixed ladders or other substantial access/egress should be provided at boat transfer locations exceeding several feet.

Depending on the specific nature of the operations (e.g., work in remote areas), other emergency equipment which should be considered such as: anchors, radios, bailers, first aid kits, and additional means of propulsion (e.g., paddles).

Workers should be cautioned about using their legs as fenders, or getting their hands, arms, or legs between vessels or between vessels and docks or fixed structures.

29. ATTACHMENT (___): ON-SITE MEDICAL MONITORING (ENTRY TEAM)

Entry team personnel (including all personnel potentially entering controlled areas in LEVEL A/B/C) are to be be covered by a medical surveillance program as required by 29 CFR 1910.120

There are numerous factors which effect allowable ranges so that each individual must be evaluated on a case-by-case basis by medical personnel.

The following typical values are provided only as a guideline:

☐	Max Blood Pressure:	140 diastolic/100 systolic
☐	Max Pulse Rate:	100 bpm
☐	Body Temperature:	99.2 deg.F (Max) / 98.0 deg.F (Min) or +/- 0.6 deg.F from normal

SITE NAME:						**DATE:**					
MEDICAL MONITORING LOG											
PRE-ENTRY						**POST-ENTRY**					
NAME	**TEMP**	**B/P**	**PULSE**	**WEIGHT** (1st entry only)	**TIME**	**TEMP**	**B/P**	**PULSE**	**WEIGHT** (last entry only)	**TIME**	**SITE SAFETY OFFICER'S INITIALS**

30. ATTACHMENT (___): SITE SAFETY PLAN EVALUATION CHECKLIST

NAME OF PLAN REVIEWED: _____

PLAN DRAFTED BY: Name: _____

Organization: _____

PLAN REVIEWED BY: _____

DATE OF REVIEW: _____

REVIEW INCLUDES (check those appropriate):

- ☐ Comprehensive Workplan (post-emergency)
- ☐ Safety & Health Program (for planning not site-specific)
- ☐ Site-Specific Safety & Health Plan (post-emergency)
- ☐ Emergency Response Plans (emergency phase & routine sites)

I. Comprehensive Workplan (1910.120(b)(3)):

- ☐ Work tasks, and objectives defined
- ☐ Methods of accomplishing tasks & objectives defined
- ☐ Personnel requirements for work plan accomplishments
- ☐ Training requirements identified (see 1910.120(e))
- ☐ Informational programs implemented (see 1910.120(i))
- ☐ Medical surveillance program (see 1910.120(f))

II. Safety and Health Program (1910.120(b)). (NOTE: This is not the same as the site-specific plan addressed in III. below.)

A. General:

- ☐ A written safety and health program (1910.120(b)(1)) may be incorporated in other documents
- ☐ Organizational Structure (1910.120(b)(1)(ii)(A)
- ☐ Workplan (B) checklist above (see I. above)
- ☐ Site-Specific Safety & Health Plan (C) (see III. below)
- ☐ Safety and Health Training Program (D)
- ☐ Medical surveillance program (E)
- ☐ Employer SOP on Safety and Health (F)

B. Organization Structure (1910.120(b)(2)):

- ☐ Chain of command identified
- ☐ Responsibilities of supervisors and employees
- ☐ Identifies supervisor (A)
- ☐ Identifies site safety and health supervisor(s) (B)
- ☐ Other personnel; functions and responsibilities (C)
- ☐ Lines of authority/responsibility/communications (D)

III. SITE-SPECIFIC Site Safety & Health Plan (1910.120(b)(4):

For spill response operations (as opposed to those that start from a remedial action) these plans will vary in detail as the response progresses. During the initial emergency phase responders rely on generic emergency response plans—contingency plans--while a site-specific plan is being developed. As the response progresses into post-emergency phase recovery operations a basic site-specific plan is used and may become quite detailed for prolonged or large cleanups. Finally a spill may become a fully controlled site cleanup (e.g., remedial cleanups) where a fully developed site-specific plan is developed, including detailed emergency response plans for on-site emergencies.

A. General:

- ☐ Risks for each task in work plan assessed
- ☐ Protective equip identified for each task/objective
- ☐ Frequency and types of air monitoring identified
- ☐ Frequency and types of personnel monitoring identified
- ☐ Air monitoring instruments to be used identified
- ☐ Maintenance and calibration for instrumentation (E)
- ☐ Use of "buddy system" identified Safe
- ☐ working practices identified
- ☐ Decontamination procedures identified (G)
- ☐ Emergency response plan identified (H)
- ☐ Spill Containment Program identified (J)
- ☐ Pre-entry briefings provided for (1910.120(b)4)(iii))
- ☐ Provisions for continual evaluation of plan made (iv)
- ☐ Employee training assignments made
- ☐ Medical surveillance requirements
- ☐ Site control measures identified (F)
- ☐ Sampling techniques identified
- ☐ Site map identified
- ☐ Work zones identified
- ☐ Alerting means for emergencies
- ☐ Nearest medical assistance identified
- ☐ Confined space entry procedures (I)

B. Site Characterization and Analysis (1910.120(c))

- ☐ Hazardous waste sites shall be evaluated to identify specific site hazards and determine appropriate safety and health controls

C. Preliminary Evaluation:

- ☐ Performed prior to site entry
- ☐ Performed by a qualified person
- ☐ Protection methods and site controls identified
- ☐ All inhalation/skin hazards identified
- ☐ Location and approximate size of site
- ☐ Description of response activity
- ☐ Duration of response activity
- ☐ Site topography and accessibility identified (include air and ground accessibility)
- ☐ Safety and health hazards anticipated listed
- ☐ Pathways for hazardous substance dispersion identified
- ☐ Status of emergency response units identified (rescue, fire, hazmat)
- ☐ Hazardous substances listed and associated hazards
- ☐ If SCBA is not used and potential for inhalation hazard might exist: an EEBA shall be used with 5 minutes of air

D. Risk Identification (1910.120(c)(7))

- ☐ Employees on site shall be informed of identified risks
- ☐ All information concerning the chemical physical and toxicological properties of each substance available to the employer shall be made available to the employee

E. Detailed Evaluation (1910.120(c)(2))

- ☐ Immediately after preliminary evaluation a detailed evaluation will be conducted to determine safety controls and protection needed

F. Monitoring (1910.120(h))

- ☐ Monitoring is required during initial entry
- ☐ Monitoring is required periodically
- ☐ Personnel monitoring is also required

G. Illumination Requirements: (1910.120(m))

- ☐ Areas accessible to employees shall be lighted not less than the intensities outlined in Table H-120.1

H. Sanitation Requirements: (1910.120(n))

- ☐ Water containers shall be tight top closed and equipped with a tap and clearly labeled for use. A disposal unit must be provided for used cups and a sanitary unit for unused cups (1)(i-iv). They shall not be crossed connected to non-potable water containers.
- ☐ Non-potable water must be clearly marked per (n)(2)
- ☐ Toilet facilities must be provided per (n)(3)
- ☐ Washing facilities must be in proximity per (n)(6)
- ☐ Showers and change rooms per (n)(7)
- ☐ Employers shall ensure that employees shower at the end of when leaving the hazardous waste site

IV. Emergency Response Plans (1910.120(l) and (q)) for emergency response operations (e.g., contingency plans used prior to site safety plan development), and routine sites (e.g., emergency plans for remedial sites).

A. Purpose is to prepare for anticipated emergencies

- ☐ Shall be written and available for inspection

B. Elements: (1910.120(l)(2)(i-xi))

- ☐ Shall address pre-emergency planning
- ☐ Personnel roles, lines of communication identified
- ☐ Emergency recognition and prevention addressed
- ☐ Safe distances and places of refuge established
- ☐ Site security and control addressed
- ☐ Evacuation routes and procedures established
- ☐ Emergency medical treatment and first aid
- ☐ Emergency Decon procedures identified
- ☐ Emergency alerting and response procedures identified
- ☐ Critique of response and follow up
- ☐ PPE and emergency equipment identified

C. Additional Elements: (1910.120(l)(3)(i)(A-B))

- ☐ Site topography, layout and prevailing weather
- ☐ Procedures for reporting incidents to: local, state and federal government agencies

D. Additional Requirements: (1910.120(l)(3)(ii-viii))

- ☐ Emergency response plan shall be a separate section
- ☐ ERP must be compatible with fed, state & local plans
- ☐ The ERP shall be rehearsed as part of onsite training
- ☐ The ERP shall be current
- ☐ An employee alarm system shall be installed to notify persons of an emergency situation

31. ATTACHMENT (___): SAFE WORK PRACTICES FOR OILY BIRD REHAB

REFERENCES:

Rehabilitating Oiled Sea Birds--A Field Manual. International Bird Rescue Research Center, 699 Potter St., Berkeley, CA 94710.

Oiled Bird Rehabilitation--A Guide for Establishing and Operating a Treatment Facility for Oiled Birds. Tri-State Bird Rescue & Research, Inc., P.O. Box 289, Wilmington, DE 19899.

- ☐ Operations of concern include:
  - ☐ Hazing
  - ☐ Bird Capture
  - ☐ Transportation to Rehabilitation (REHAB) Center
  - ☐ Triage and REHAB
  - ☐ Transportation and Return to Habitat
  - ☐ Logistics and Support
- ☐ Hazards to be addressed
  - ☐ HANDLING OF BIRDS. Handling of birds must be done properly to ensure the protection of both bird and handler. Wild birds have no way of knowing or understanding human intentions. Even a greatly weakened bird can inflict serious injury to handlers. Eyes are a particular concern. Open wounds on hands and arms present access for oily contaminants and disease vectors to enter the human blood system.
  - ☐ CONTACT WITH OIL. The site safety and health plan will provide a more detailed discussion of health hazards of oils
    - ☐ The primary health hazard associated with oils (crude oil in particular) is dermatitis from skin contact. This condition may be aggravated for personnel conducting washing operations. Prolonged exposure to soapy water initiates defatting of the skin, and water logging may contribute to an initial skin injury that can aggravate sensitivity to the oil.

Once an individual contracts an allergic dermatitis reaction it will be nearly impossible to prevent future outbreaks other than by strict avoidance of any further contact with the oil.

- Oils splashed in the eyes will also cause acute irritation and perhaps inflammation.
- Injuries inflicted by birds open a path for the chemical components of oils to enter the blood.
- The smell of crude oil or diesels may be irritating to sensitive individuals and can cause nausea even at otherwise non-toxic concentration.

SLIPPERY & DANGEROUS SURFACES. Field personnel will be working on dangerous surfaces. Wet rocks, oily surfaces (including boats), ice, and steep or unstable terrain all present serious injury potential for field personnel. This is a particular concern during capture because the choice of location is purely up to the injured bird. Attention becomes focused on capture to the neglect of personal dangers.

WORK NEAR WATER. Some of the most serious hazards may occur near inter-tidal or surf areas. Public beaches are relatively safe locations but oil spills occur at random locations, including those that may be very dangerous. When working near inter-tidal areas serious hazards may include:

- Riptides
- Undertows
- Underwater drop-offs
- Unstable banks
- Soft bottoms (i.e. mud flats or marshes)

EXPOSURE TO THE WEATHER. Heat stress, cold stress, hypothermia and sunburn should all be considered as potential hazards for field personnel.

- ELECTRICAL/SHOCK HAZARDS. Electrical equipment used in REHAB centers must be kept away from or adequately protected from wet areas.

- Safe Work Practices:

  - Never work alone in the field. Always work in teams of at least two people... especially in the field!

  - Personal Protective Equipment (PPE) for field ops:

    - Dress for the weather!

      - Dress adequately for the cold in particular.
      - Clothing guidelines for cold weather are provided in other attachments.
      - Bring a rain suit if there is any chance of getting caught in the rain.
      - Bring a dry change of clothing in case you get wet and/or cold.
      - Even in hot dry weather personnel may need to have clothing suitable for working in brush areas possibly with poisonous plants, ticks, thick brush, or snakes. Dress accordingly.

    - Prevent street clothing and skin contact with oil

      - Bring a change of work clothing in case you get wet, cold, or dirty.
      - Wear chemical resistant clothing (neoprene is a common material that is resistant to many oils) such as: gloves, coverall pants, aprons, rain slicker jackets and boots are the best way to prevent contact with oils.
      - Trash bags or a suitable container should be available for holding oily gear.
      - Clean oily gear at the REHAB center or throw it away. Do not bring contaminated clothing or equipment home with you.

- Wear flotation work vests or other Personal Flotation Devices (PFDs) approved by the U.S. Coast Guard while working in boats, over the water, in the surf, or on sloping banks near the water. If hypothermia is a consideration, mustang suits will be required in small boats.

- Bring sun glasses and sun screen during the summer. Glasses or goggles should be worn while handling birds.

- Wear sturdy rubber boots or hip waders if there is any chance of working in wet or oily locations.

- Wear long sleeved garments for working in brushy areas, for sun protection, and for protection from bird bites.

- See Attachment ____ for prevention and first aid for animal bites, stings, snake bites, poisonous plants, ticks and punctures/stings by marine animals (such as jellyfish).

    - In particular wear snake leggings in grassy/marshy areas or snake hazard areas.
    - Stay alert for ticks in areas where they may be a problem.
    - Stay alert for all of these hazards and report encounters to your supervisor in order to pass the word to others.
    - If you have allergic reactions to any of the hazards above, let your supervisor know and stay away from recognized hazards.

- Wear sturdy gloves that are resistant to oil while handling oily birds during capture.

- Avoid leather clothing or articles. Leather is easily contaminated by oil, and cannot be completely cleaned once contaminated.

- Use soap and water, or waterless hand cleaner for removing oil after captures.

- Wear long clothing and insect repellent in tick areas. Partners should examine each other for ticks during breaks and at the end of the day.

- Carry a throwing line if there is a chance of getting caught in soft mud's/sands, or falling into the water.

- Personal Protective Equipment (PPE) for working in REHAB centers:

  - Not all facilities will be heated or air conditioned. Dress adequately and bring a change of clothing. Dress adequately for the cold in particular. Bring a rain suit if there is any chance of working outside in the rain. Clothing guidelines for cold weather are provided in other attachments.

  - Bring a change of work clothing if you will be working with oil or contaminated water.

    - Suitable containers should be available for holding oily gear.
    - Use aprons, rain slickers & pants, boots or boot covers, and gloves that are resistant to oils (neoprene is a common material that is resistant to many oils).
    - Clean oily gear at the REHAB center or throw it away. Do not bring contaminated clothing or equipment home with you.

  - Wear heavy long sleeved garments for protection from bird bites. Bites may become infected and must be properly cleaned and treated.

  - Wear glasses or goggles (for beak and splash protection) while handling or cleaning oily birds.

  - Avoid wearing or carrying leather clothing or articles. Leather is easily contaminated by oil, and cannot be cleaned once contaminated.

- Immunization

  - Personnel working in the field or handling birds in centers should have an up-to-date tetanus immunization.

  - Rabies prophylaxis should be considered for personnel handling wild animals, and especially if field personnel are bitten by wild animals.

- ☐ SMALL BOAT SAFETY. Boating safety is discussed in other safety plan attachments. Training classes in boating safety are available through your local Coast Guard Auxiliary.

- ☐ HELICOPTERS. Helicopters safety is discussed in other safety plan attachments. Personnel should always receive a safety briefing from their pilot.

- ☐ HANDLING BIRDS. Never handle birds unless trained in handling procedures. Reference (a) provides specific details on capturing and handling procedures.

  - ☐ Never hold birds near your face. Keep them down at waist level.

  - ☐ Work with a partner in the field. THE BUDDY SYSTEM IS A MANDATORY SAFE WORK PRACTICE BY REGULATION. One person should hold the bird while another helps direct the bird into a transportation container.

  - ☐ For prolonged handling (such as during washing):

    - ☐ Use a beak gag to minimize biting and poking hazards
    - ☐ Work with a partner (one person controls the head while the other works with the body)

- ☐ Design and construction of REHAB centers

  - ☐ Prior to constructing or using a facility, consult with local fire officials about local fire ordinances.

  - ☐ Electrical outlets, cords, appliances, and power tools should be kept away from cleaning and pool areas as much as possible. Ground fault interrupters must be installed for electrical equipment used in wet locations, and should be used in most others. Depending on the construction of REHAB centers, the use of exterior grade electrical wire should be considered for many locations. Electrical cords must be maintained in good condition. See the main text discussion on the use of power tools.

  - ☐ Personal hygiene must be maintained in the field and especially in centers. Contact with bird carcasses, droppings in bedding and on surfaces, and spoiled food are a particular concern.

- Washing and sanitation areas should be maintained between treatment/work areas and personnel areas. Hand lotions should also be available to minimize skin irritation from frequent washing.
- The general layout of REHAB centers should provide careful separation of contaminated areas and clean areas. Hygiene facilities and contaminated equipment drops should be in between (similar to the hot, warm and cold zone concepts presented in the text). Locations that can be easily maintained as clean for administrative areas, rest areas, eating/drinking areas, and smoking areas should be selected before constructing pens, cleaning stations, or receiving birds for treatment.

- Food service should be carefully considered for REHAB centers and field staging areas.
  - Hot beverages should be provided for cold weather work (personnel returning from the field, or center personnel working with water). Personnel working in heat or cold stress conditions need to force fluids to avoid dehydration.
  - Spoiled/contaminated foods can cause outbreaks of food poisoning. If cooking and refrigerating facilities are not available at centers, food should be selected for resistance to spoiling and discarded regularly. Support from public health officials is recommended.

- For the protection of personnel and animals, procedures must be established for the regular cleaning of handling and holding areas. Provisions must be made for holding all water wastes from cleaning stations and pools.

- Locations for handling diseased or dead birds should be chosen before construction. These locations should provide isolation, and separate provisions for waste removal.

- Plan for visitors at REHAB centers. Visitors pose a hazard to the animals under care, and vice versa. It is highly recommended that a procedure be specifically adopted for receiving visitors and providing tours.

- Provide visitors with a briefing in an uncontaminated/non-working area including rules and precautions.
- Tour guides should take visitors on a brief tour that has been specifically approved. Visitors should not be allowed to touch or approach animals.
- Child visitors should generally be discouraged or be provided with a special tour that involves a minimal exposure to the animals and work.

- Children should not be allowed in the work areas. If children volunteers are used in a REHAB effort, they should be kept away from the working areas in the center or the field. Tasks should be carefully selected for safe administrative or support functions.

- Remember:
  - A sick or injured person cannot help REHAB efforts. Take care of yourself!
  - There are lots of opportunities to support bird REHAB that do not involve handling birds, contacting oil, or working in dangerous field conditions. Food service, cleaning, supply, driving, tours for visitors, computer data, working the phone sand many other administrative tasks are available for those people that are not prepared for working directly with the birds.

32. ATTACHMENT (___): MOTOR VEHICLE SAFETY BRIEFING

One of the most dangerous operations performed by pollution response personnel is driving to and from the spill site. This is particularly true when driving vehicles that you are unfamiliar with such as motor pool and rental vehicles.

Familiarize yourself with your vehicle before driving. Walk around and check the outside condition, familiarize yourself with the interior as well, and make all adjustments before driving a vehicle.

Get your attitude right before driving.

- Pollution response personnel must function with "deliberate speed"... not reckless speed.
- Forget schedules while driving! The road is no place to make up lost time.
- Settle down. Do not bring frustrations into the vehicle with you.
- Make up your mind to be the most courteous driver on the road. Forget about getting even with bad drivers on the road. Forget about competing with other drivers.
- Expect other drivers to make stupid mistakes, and prepare to deal with their mistakes.
- Having the right-of-way is no substitute for being alive. Expect the other drivers to break the rules.
- Use your parking lights only when parked. Use your headlights during all conditions of reduced visibility (dawn, dusk, fog).

Do not drive under the influence of alcohol or drugs. Coffee, cold showers, fresh air, or other "remedies" will not make you sober. Only time will make you sober.

Coffee is also a drug and may actually cause hallucinations.

Take frequent breaks about every hour or 100 miles. If you decide to take a nap, pull over at a well-lighted rest stop and keep your doors locked while you are sleeping.

Conditions that increase the likelihood of highway hypnosis include:

- Driving too long without a break
- Driving at night
- Staring straight ahead instead of scanning all directions

Look ahead for problems and maintain a safe distance behind the car in front of you.

Slow and steady is the best pace for driving on snow, ice, or other slippery road surfaces. Do not hit your brakes hard or accelerate quickly.

Do not stare into the headlights of oncoming traffic.

33. ATTACHMENT (___): DRUM HANDLING AND SPILL CONTAINMENT

Detailed regulations regarding drum handling and spill containment can be found at 29 CFR 1910.120(j).

☐ Handling Drums

- ☐ Drums shall be inspected and given a unique identification prior to being moved.
- ☐ Movement of drums must be kept to a minimum.
- ☐ To the greatest extent possible, drums shall not be moved by unaided manual methods. Safe manual lifting procedures are provided in this plan.
- ☐ Prior to shipment, each drum must be in good condition (or overpacked) and properly labeled in accordance with 49 CFR requirements.
- ☐ A log shall be maintained to keep track of sampling, repacking/overpacking, bulking/consolidation, on-site movement, off-site shipment, and any other significant events related to each individual drum.
- ☐ Bulking or product consolidation is allowed only after individual product contents have been characterized.
- ☐ Metal detectors, ground penetrating devices/systems, or other detection methods shall be used to determine the location of buried drums before excavation at sites.

☐ Opening and sampling drums

- ☐ If airlines are used, they must be located to prevent physical damage or contamination.
- ☐ When opening drums, the minimum number of employees shall be allowed in the work area.
- ☐ To the extent possible drums shall be opened remotely or with a suitable shield for personnel. In particular drums showing signs of being pressurized (high pressure or vacuum), containing flammable, or explosive materials must be opened with appropriate remote opening equipment and shields.

- ☐ When opening potentially flammable product drums spark proof tools shall be used. Fire suppression equipment must be located nearby in a shielded/protected location ready for use.

- ☐ A specific work plan shall be developed for handling drums or containers involving radioactive or shock sensitive materials, and lab packs. Lab packs must be opened and inner packages characterized only by personnel familiar with lab pack hazards, inspection, and classification. Crystallized materials on inner packages in lab packs shall be handled as shock sensitive until characterized otherwise.

- ☐ Specific equipment to be used for sampling drums shall be noted in the work plan.

☐ Staging and containment areas

- ☐ Pathways for hazardous substance dispersion:

  Pathways are depicted on the site safety map provided as Attachment ___.

  _____

  _____

- ☐ When drums are moved from their original locations to a work area or staging area, a spill containment area must be constructed for those locations. The containment should be able to contain the maximum loss from any of the containers in the area.

- ☐ Safe access and egress points must be provided to all staging areas. Adequate room and ramps must be provided for heavy equipment used to handle drums (e.g., bobcats with drum grapplers). A secondary emergency egress point must also be identified.

34. ATTACHMENT (___): ACCIDENT PREVENTION PLAN (APP)

APPENDIX C
Storm Water Pollution Control Plan

Portland Terminal

SWPCP

9420 N.W. St. Helens Road
Portland, OR 97231

Plan Prepared: 08/31/2021

Plan Last Revised: 07/25/2022

Prepared by

GeoEngineers, Inc.

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SECTION 1
INTRODUCTION

Last Revised: August 31, 2021

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1.1 Purpose and Scope

1.2 Facility Information

1.2.1 General Facility Information

1.2.2 Facility Description and Industrial Sources

1.2.3 History of Releases

1.2.4 Description of Outfalls and Potential Receiving Waters

1.3 Plan Signature and Review

1.3.1 Plan Signature and Certification [EPA 832-R-92-006; 2.6.2]

1.3.2 Plan Review and Amendment [EPA 832-R-92-006; 2.5.3]

1.3.3 Periodic Reports / Compliance Evaluation [EPA 832-R-92-006; 2.5.1]

1.3.4 Plan Location and Distribution [EPA 832-R-92-006; 2.6.3]

1.3.5 Plan Submittal and Required Plan Modifications [EPA 832-R-92-006; 2.6.4]

Figure 1.3-1 - Record of Reviews [EPA 832-R-92-006; 2.5.3]]

Figure 1.3-2 - Distribution List [EPA 832-R-92-006; 2.6.3]

1.1 PURPOSE AND SCOPE

In conformance with the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has promulgated regulations to issue NPDES Permits for stormwater discharges associated with industrial activity, under the National Pollutant Discharge Elimination System (NPDES) program, as defined in **40 CFR 122.21** and **40 CFR 122.26**. NPDES permits are issued by the State for States that have been delegated NPDES permitting authority, or by the EPA for States that have not been delegated NPDES permitting authority.

The NPDES 1200-Z General Permit (General Permit), for Stormwater associated with industrial activity, require the development and implementation of a Stormwater Pollution Control Plan (SWPCP), as defined in Federal Register Publication, September 1992, **EPA 832-R-92-006**, Stormwater Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices. The regulatory content of this plan includes references to the related content requirements defined in **EPA 832-R-92-006** and applicable state requirements.

The purpose of this plan is to identify potential stormwater pollution sources and to reduce the potential of pollutants reaching nearby waterways, by establishing procedures and controls to accomplish the following objectives.

1. Identify pollutants that may come in contact with stormwater.
2. Establish measures to prevent pollutants from coming in contact with stormwater.
3. Establish controls to reduce or eliminate the potential for contaminated stormwater being released to the environment.
4. To ensure compliance with the terms and conditions of this General Permit.

Refer to **SECTION 1.2** for the NPDES Permit Number and effective date. Refer to **APPENDIX B** to view a copy of the General Permit and Permit Issuance Letter associated with this plan.

The scope of this SWPCP applies to the industrial facility identified in **SECTION 1.2**.

1.2 FACILITY INFORMATION

1.2.1 General Facility Information

FACILITYINFORMATION			
Name of Facility:	Portland Terminal	**Name and Address of Owner / Operator:**	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257
Facility Street Address:	9420 N.W. St. Helens Road Portland, OR 97231	**Standard Industrial Classification (SIC) Code:**	4226
Facility Mailing Address (if different):		**Type of Industry or Manufacturing:**	special warehousing & storage, not elsewhere classified
Facility Phone Number(s):	503-286-6732 Ext. 7118 – Ryan Groesbeck	**Facility 24-hour Emergency Phone Number(s):**	(503) 969 - 4555
Latitude / Longitude:	45° 35' 19.7" N / 122° 46' 23.2" W		
EPAID Number:		**Permit Number(s):**	1200-Z General Permit File No. 109938
Area of Impervious Surface:	494, 611 square feet	**Existing Permit Date:**	July 1, 2021
Site Compliance Evaluation Interval(s):	Annually	**Permit Expiration Date:**	June 30 2026
Number of Outfalls:	2 (Outfalls 001 and 002)	**Name(s) of Receiving Water(s) or MS4:**	Willamette River
This facility is not subject to reporting requirements under EPCRA Section 313 for water priority chemicals.			

This site is a petroleum bulk tank farm and marine terminal consisting of aboveground storage tanks ranging in size from 120 to 110,000 barrels. The facility is used for bulk storage and distribution of petroleum hydrocarbons, biodiesel fuels, and ethanol. The facility receives and ships product by pipeline, tank truck, and waterborne vessels. Products transferred through this facility are non-persistent oils consisting of gasoline, fuel additives, distillates, ethanol, biodiesel and renewable diesel.

1.2.2 Facility Description and Industrial Sources

1.2.2 Facility Description and Industrial Sources
General Location
The terminal is in Section 19, Township 1 North, Range 1 East of the Willamette Meridian. The site is approximately 10 miles northwest of downtown Portland in Multnomah County. The terminal is located on the west bank of the Willamette River.
The Portland Terminal is located on approximately 32 acres.
Land Use
Land use within 1 mile of the site includes residential, light and heavy industrial manufacturing and commercial businesses.
Facility Layout and Conditions
Description of Buildings: P-2 Drainage Area include: Buildings 5, 8, 12, and Rail Control Building Upper Terminal Drainage Area include: Building 4, 10, 11, Main Office P-3 Drainage Area include: Building P3 At the entry gate of Yards 4 & 5 include: Fire Control Building
Description of Vegetated Areas: The majority of the site is underlain by pavement, gravel, or soil. Vegetated areas are present at the perimeter of the site as well as two small vegetated/landscaped areas in the Upper Terminal Drainage Area. The area west of Tank Yards 4 and 5 is undeveloped and vegetated.
Site figures depicting the general layout of the facility are included in **Section 3.2**. These figures identify approximate facility boundaries, buildings, locations of industrial activity subject to the 1200-Z General Permit (General Permit), locations of materials directly exposed to precipitation, storage areas and storage tank locations, vehicle and equipment maintenance and storage areas, material handling and processing areas, hazardous waste accumulation areas, wastewater treatment and non-hazardous waste disposal, vegetated areas, erodible areas, impervious areas, dust-generating areas, cleaning areas, areas of known or suspected contamination, stormwater flow, drainage areas, stormwater monitoring locations or outfalls, areas of run-on, on-site and nearby surface water bodies, locations of municipal storm drain inlets, locations of stormwater collection and conveyance systems and associated flows of direction and points of discharge or outfalls, and stormwater monitoring and sampling locations.
Existing Facility Plans
The list below identifies other existing facility plans that include stormwater-related procedural and BMPs discussion: Integrated Contingency Plan (ICP) Spill Prevention, Control and Countermeasure (SPCC) Plan Also, the SWPCP appendices present additional documents for implementation of this plan, as well as convenient references.

1.2.3 Known Areas of Significant Materials and History of Releases

1.2.3 Known Areas of Significant Materials and History of Releases

The Northern Facility Area, approximately 21 acres, was owned by ExxonMobil and its predecessors from approximately 1928 until December 2001, when the product storage and transfer facilities were sold to Shore Terminals. The Southern Facility Area, approximately 8 acres, was owned by Time Oil Co. (Time Oil) until it was acquired by Shore Terminals in September 1999.

The Facility has been issued an Environmental Cleanup Site Information (ECSI) Database (Site No. 5130) by Oregon Department of Environmental Quality (DEQ). Ongoing cleanup and source control work at the facility is conducted in coordination with DEQ pursuant to:

- Source Control Agreement LQVC-NWR-08-14 (Source Control Agreement, DEQ, 2009) between DEQ and Shore Terminals; and
- Voluntary Cleanup Agreement No. ECVC-NWR-01-15 (Voluntary Cleanup Agreement; DEQ, 2002), formerly between ExxonMobil and DEQ. ExxonMobil had been conducting investigation and cleanup of releases that occurred in the Northern Facility Area during its ownership of this area pursuant to the Voluntary Cleanup Agreement. Effective December 22, 2011, Shore Terminals agreed to comply with the Voluntary Cleanup Agreement.

The summary of historical releases and updates on ongoing site conditions are reported to DEQ semi-annually.

Summary of Historical Releases:

Northern Facility Area
Remediation of releases in the Northern Facility Area has been ongoing since the mid-1970s.

Releases Prior to 2001
The number of historical releases at the former ExxonMobil tract is unknown. However, a review of historical tank records indicated nine recorded releases from tanks in the ExxonMobil tract prior to 2001. In the mid- to late-1960s and 1970s, petroleum sheen was observed on the Willamette River surface adjacent to the Terminal. In the early to mid-1970s, several extraction wells were installed to recover separate-phase petroleum hydrocarbons (SPH) from the subsurface and to prevent migration to the river.

Releases After 2001
Five releases have occurred since 2001 and have been investigated and remediated as follows:

Tank 3510 Release. Gasoline was released from Tank 3510, within the Tank Field 1 concrete containment area, on February 22, 2006. Soil samples were collected to delineate the extent of gasoline impacts to soil. Sampling indicated that the gasoline impacts to soil from the Tank 3510 release were limited to an area within approximately 80 feet of the tank, which is more than 160 feet from the river. Remediation activities included free-phase gasoline removal, shallow soil excavation, and the operation of an SVE system for a period of 6 months.

Tank 8006. Soil samples were collected near the footprint of Tank 8006 after pitting was observed in the base of the tank during maintenance activities in 2007. An investigation of the Tank 8006 area was performed. The soil samples indicated that gasoline impacts to soil were limited to areas near the base of Tank 8006, which is approximately 200 feet from the river and within the Tank Field 3 containment area. Impacts to groundwater were not observed.

Loading Rack. A small release of gasoline occurred at Bay 3 of the Loading Rack on or about June 11, 2008. Soil samples were collected to delineate the extent of impacts from the release (Ash Creek, 2008b). The soil data indicated the presence of gasoline-affected soil within approximately 40 to 60 feet of the Loading Rack. Groundwater monitoring of wells within and around the release area was initiated in 2009 and has been ongoing since that time. SPH are occasionally observed in one or more of the wells in the area and are removed when present. Ongoing groundwater sampling at wells located between the Loading Rack and the river indicate that this release did not and does not have the potential to impact the river.

Underground Heating Oil Tank. In July 2011, diesel-range hydrocarbons were detected in soil underneath a small (1,000-gallon) unused heating oil underground storage tank (UST), located near the Operator's Office, approximately 500 feet west of the river. The tank was decommissioned and certified in accordance with DEQ requirements. The magnitude and extent of heating-oil-impacted soil was estimated at approximately 58 cubic yards. Groundwater was not affected by the release, indicating that there are no complete pathways for transport of diesel from the decommissioned UST area to the river.

Ethanol Release. An ethanol release from a buried pipe at the southwest corner of Tank Field 1 was identified in early 2011. Groundwater monitoring was conducted for several years following the release to evaluate the extent and fate of the ethanol release. Results of the groundwater monitoring demonstrated that the ethanol concentrations initially observed in groundwater following the release have decreased to below laboratory method reporting limits, and ethanol appears to be removed from the subsurface. DEQ approved removing ethanol from the monitoring program in an email correspondence dated October 16, 2018.

Biodiesel Release. On June 1, 2020, a pump located between Tank Field 1 and Tank Field 2 malfunctioned and caused a seal on the pump to fail resulting in the release of approximately 1,300 gallons of B99 Biodiesel (a blend of 99% biodiesel, 1% diesel). The release was reported to DEQ on June 1, 2020 (OERS #2020-1339). Upon discovery, the Facility immediately shut down and isolated the biodiesel pump to stop the product release, and initiated cleanup of the recoverable B99 Biodiesel and removal of B99 Biodiesel impacted soil. As detailed in the 30-Day Spill/Release Report—Biodiesel Spill Incident, submitted by NuStar to DEQ on July 1, 2020 (NuStar, 2020), approximately 62 cubic yards of soil containing B99 Biodiesel were removed during the immediate removal activities. The majority of impacted soil was removed during the immediate response action; however, even with the use of temporary pipe and foundation support structures, some soil containing B99 Biodiesel could not be removed without compromising the stability of the many pumps and piping support foundations present in the release area. Leachability testing of samples containing the B99 Biodiesel demonstrated that the product does not have a leachable fraction of diesel.

Southern Facility Area

Two gasoline releases were documented at the Time Oil Tract that took place prior to Shore Terminals ownership. In 1988, approximately 1,000 gallons of gasoline were released and, in 1992, approximately 250 gallons of gasoline were released, both as a result of AST overfilling incidents. Both releases occurred within AST containment structures, which limited the extent of impacts to soil. To address the AST releases, Time Oil excavated and treated approximately 300 cubic yards of soil and installed an SVE system. The SVE system was deactivated in 1997 when data demonstrated that the system was no longer removing significant hydrocarbon mass. Groundwater monitoring data collected in 2020 confirmed that SPH were not present and concentrations of petroleum-related constituents were non-detect or below applicable risk-based screening levels.

1.2.4 Description of Outfalls and Potential Receiving Waters

1.2.4 Description of Outfalls and Potential Receiving Waters
Stormwater Drainage and Discharge Information
The Portland Terminal is comprised of the following drainage basin areas:
Upper Terminal Drainage Area: This area consists of the entry gate, the terminal office building, the terminal operators (TO) office building, the vapor recovery unit (VRU), and a truck Loading Rack. The majority of the Upper Terminal Drainage Area drains to the P-2 oil/water separator and discharges to the Willamette River at NPDES Outfall 001 (WR-78). Stormwater Conveyance, Upper Terminal Drainage Area: With the exception of the catch basins at the Truck Loading Rack roof drains as well as catch basins and French drains near the Main Office (outside and upgradient from any storage or loading/unloading operations), stormwater from the Upper Terminal Drainage Basin enters catch basins and drains the P-2 API oil/water separator. Catch basins located at the Truck Loading Rack and one catch basin located between the Truck Loading Rack and the terminal operator's office (TO) Building drain to a 15,000-gallon storage tank and manually drains to the P-2 oil/water separator if there is no spill. The treated stormwater from the P-2 oil/water separator then discharges to NPDES Outfall 001. The Truck Loading Rack roof drains near the Main Office (French drains and catch basins) located in the parking areas and terminal entrance are connected to the POTW as shown on Figure 3-4.
OPLC Parking Drainage Area: A small drainage area adjacent to the OPLC Switching Station that includes the vegetated hillside between the OPLC Switching Station and the main entry driveway. The OPLC Parking Drainage Area discharges to an unpaved area adjacent to the railroad tracks. A small berm separates the unpaved area from the drainage ditch that run parallel to the railroad tracks. The northern end drainage ditch is located approximately 180 feet southeast of the drainage area discharge outfall. The drainage ditch drains beneath Tank Yard 3 to the Willamette River via WR-209. If sufficient rainfall occurs, it is possible that stormwater from the OPLC Parking Drainage Area could enter the drainage ditch.
Terminal Driveway Drainage Area: This area is a small drainage area caused by a topographic low spot in the Upper Terminal Area adjacent to the OPLC Parking Drainage Area and the facility railroad crossing gate. A single catch basin SS-02 (Figure 3-4) drains the Terminal Driveway Drainage Area to the unpaved area adjacent to the railroad tracks (approximately 45 feet northwest to the OPLC Parking Drainage Area outfall). A small berm separates the unpaved area from the drainage ditch that run parallel to the railroad tracks. The northern end drainage ditch is located approximately 225 feet southeast of the drainage area discharge outfall. The drainage ditch drains beneath Tank Yard 3 to the Willamette River via WR-209. If sufficient rainfall occurs, it is possible that stormwater from the OPLC Parking Drainage Area could enter the drainage ditch.
P-2 Drainage Area: This area is located east of the railroad tracks on the north and central parts of the terminal. It consists of three tank farms (Yards 1, 2, and 3); Buildings 5, 14, 12, 17, and 8; the P-2 marine dock; the unloading rail spur; truck offloading areas; and an inactive loading rack that is now used to store hazardous and non-hazardous waste drums. The P-2 Drainage Area drains to the P-2 oil-water separator and discharges to the Willamette River at NPDES Outfall 001. Stormwater Conveyance, P-2 Drainage Area: Stormwater drainage valves at the tank farms (Yards 1, 2, and 3) remain closed except when discharging to prevent accidental release. Following inspection by terminal operators, stormwater is manually released from the tank farms (Yards 1, 2, and 3) by opening a valve at each tank farm and allowing stormwater to drain to the P-2 oil/water separator and then discharge to the Willamette River via Outfall 001. Area drains outside of the tank farms and the collection pans on the marine dock flow to the P-2 oil/water separator. Stormwater from roadway at the north side of the P-2 Drainage Area 1 is collected at an interceptor sump on the north side of Building 8. The sump is equipped with a pneumatic pump which transfers collected stormwater to a discharge manifold located inside Tank Yard 1, which discharges to the P-2 oil/water separator. The hazardous waste concrete containment area is equipped with a manually operated drainage valve. This valve is maintained in the normally closed position and has the option to drain to Yard 2 if there are no releases within the containment area. If a release occurs when stormwater is present in the containment area, then all material is considered to be hazardous and managed accordingly i.e., release-contaminated stormwater is not drained to Yard 2 for discharge to Outfall 001.

P-3 Drainage Area: This area is located east of the railroad tracks on the southern portion of the terminal. It consists of one tank farm (Yard 5). Stormwater from Yard 5 drains to a stormwater treatment system (Contech Filter) and then discharges to the Willamette River at Outfall 002 (WR-152).

Stormwater Conveyance, P-3 Drainage Area:

The Yard 5 tank farm contains an impermeable membrane which is situated beneath the gravel surface. The graveled tank farm flows to a Contech StormFilter® (Contech) stormwater treatment device. Stormwater is then pumped from the Contech system to NPDES Outfall 002. A catch basin located adjacent to the Contech treatment system receives flow from the immediate yard area also discharges via the Contech system and NPDES Outfall 002. All other drains in the P-3 drainage area, including Yard 4, are plumbed to the Main Oil/Water Separator, which discharges to the City of Portland sanitary sewer system (POTW).

POTW Drainage Area: This area is located east of the railroad tracks on the southern portion of the terminal. It consists of one tank farm (Yard 4), the P-3 marine dock, and the area between Yards 4 and 5 (with the exception of the one catch basin adjacent to the Contech treatment system. Stormwater from the POTW Drainage Area drains to the P-3 oil-water separator and then discharges to the City of Portland sanitary sewer, also referred to as publicly-owned treatment works (POTW).

General Topography of Facility: The operational areas, including the loading rack rail spur and five tank farms are relatively flat. In the western part of the Upper Terminal Drainage Area, including the main office and driveway, the ground surface rises to the south and west.

General Surface Flow Direction: See Figures 3-4 and Figure 3-5 in **Section 3.2**

1.2.3 Description of Outfalls and Potential Receiving Waters, Continued

1.2.3 Description of Outfalls and Potential Receiving Waters, Continued
, Continued Stormwater Drainage and Discharge Information
Discharge / Monitoring Location: Outfall 001 located in P-2 Drainage Area; Outfall 002 located in P-3 Drainage Area Drainage Area Discharge to MS4: No If Yes – name of MS4 Operator: N/A Drainage to any segment of an impaired water: Yes If yes – name (and segment) of impaired water: Willamette River Is there Run-On from Off-Site: No If yes – indicate & describe source: N/A

Drainage Area ID	Outfall	Total Approximate Area	Total Approximate Impervious Area
Upper Terminal Drainage Area / P-2 Drainage Area	001	1,039,510 square feet	428,016 square feet
P-3 Drainage Area	002	63,995 square feet	63,995 square feet
Terminal Driveway Drainage Area	003	29,770 square feet	29,770 square feet
OLPC Parking Area	004	7,260 square feet	2,600 square feet

1.3 PLAN SIGNATURE AND REVIEW

1.3.1 Plan Signature and Certification [EPA 832-R-92-006; 2.6.2]

For a corporation, the plan must be signed by a responsible corporate officer. A responsible corporate officer may be any one of the following:

A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedure.

This SWPCP does not require the signature of a Certified Stormwater Operator.

This SWPCP does not require the certification of a Registered Professional Engineer, subject to the reporting requirements under EPCRA Section 313 for water priority chemicals.

PLAN CERTIFICATION	
I hereby certify that this Stormwater Pollution Control Plan has been prepared, and to the best of my knowledge, in accordance with good engineering practices. I have personally examined and am familiar with the information submitted in this document and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.	
Responsible Officer Certification	
Signature:	
Printed Name:	Ryan Groesbeck
Title:	Terminal Manager
Date:	07/25/22

Copies of spill reports prepared under this act are filed at the specific facility.

Additional Requirements

1.3.2 Plan Review and Amendment [EPA 832-R-92-006; 2.5.3]

This plan shall be reviewed and evaluated at least once each year, as part of a periodic Site Compliance Evaluation (**SECTION 1.3.3**). Based on this review, plan content will be amended as necessary to ensure continued compliance with the NPDES General Permit. For each plan review, an entry will be made in the Record of Reviews (**FIGURE 1.3.1**) and signed after each review. If the plan is determined to be satisfactory through this review, then the entry shall note that no changes were made and will include the signature of the reviewer.

If a reportable spill occurs, or if the SWPCP proves to be ineffective in some other manner, the plan will be updated as noted below, and any spills will be recorded in **SECTION 4.2 "Spill History"**.

Any addition of new sources of significant materials or a change in design, construction, operation or maintenance, which will have a significant effect on the potential to contaminate stormwater run-off from this facility will require an amendment to this plan, including a description of controls to be used to minimize exposure of such materials to stormwater run-off.

Refer to **SECTION 8** for additional special requirements.

1.3.3 Periodic Reports / Compliance Evaluation [EPA 832-R-92-006; 2.5.1]

Site Compliance Evaluations must be completed at the interval(s) identified in **SECTION 1.2**, as required by the NPDES General Permit. Qualified personnel must perform the Site Compliance Evaluation. Qualified personnel include those identified in **SECTION 1.3.1**, **SECTION 2.1**, and appropriately trained personnel as defined in **SECTION 7.3**. To facilitate Site Compliance Evaluations, a Site Compliance Evaluation Checklist is contained in **APPENDIX A**. The objectives of the Site Compliance Evaluation are identified as follows.

Benchmark Compliance Evaluation

No later than 30 calendar days after receiving the monitoring results with knowledge of benchmarks or reference concentration exceedance, the facility must prepare Tier I Corrective Action investigation, response and report. A Tier report for any exceedance of reference concentrations of impairment pollutants must be submitted to DEQ or its agent (City of Portland). Tier 1 report must be kept on site and available upon request.

Reports

Refer to **SECTION 4.5**.

DMR Quarterly Report Submittal Deadlines:

Q1 - July to September - November 15

Q2 - October to December - February 15

Q3 - January to March - May 15

Q4 - April to June - August 15

Quarterly report submittal is required even when the facility did not collect any sample.

Completed Site Compliance Evaluation Reports and Checklists will be retained for the duration of the General Permit period, plus one (1) year after expiration of the General Permit. Completed Site Compliance Evaluation Reports and Checklists are attached to this plan in **APPENDIX A** for the current retention period.

1.3.4 Plan Location and Distribution [EPA 832-R-92-006; 2.6.3]

This plan is maintained on-site and is available for review by the U.S. EPA Regional Administrator, State Permitting Authority, and local Municipal Storm Sewer System Operator as necessary. If this plan is combined with other environmental response plans a copy shall be provided to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and other local authorities as required. Refer to the Distribution List contained in **FIGURE 1.3-2** for a listing of plan holders and locations.

1.3.5 Plan Submittal and Required Plan Modifications [EPA 832-R-92-006; 2.6.4]

1.3.5 Plan Submittal and Required Plan Modifications [EPA832-R-92-006;2.6.4]
Description
This plan has been updated and submitted to DEQ or it's agent as required by the General Permit on or before August 31, 2021.
This plan is reviewed on an annual basis during the review discussed in **SECTION 7**. Any revisions to the plan are recorded in **APPENDIX C**.
The SWPCP will also be amended whenever changes in industrial activities, operations, or a violation of permit limitations necessitate revisions to the site controls/BMPs.
The annual review is recorded by the reviewer on **FIGURE1.3-1**.

- **Permitting Authority - Required Plan Modifications**

Upon completion of a plan review, the permitting authority may find that it does not meet one or more of the minimum standards established by the Stormwater Pollution Control Plan requirements. In this case, the permitting authority will notify the owner/operator of the changes necessary to improve the plan. Any changes required by the permitting authority must be completed within thirty (30) days, unless otherwise specified in the notification, and the facility must submit a certification signed in accordance with **SECTION 1.3.1** to the permitting authority that all requested changes have been completed.

FIGURE 1.3-1 - RECORD OF REVIEWS [EPA 832-R-92-006; 2.5.3]]

Date of Review[1]		Will Plan Need Amendment?[2]	Reviewer's Signature[3]	Reason for Amendment[4]	Date of Amendment (or N/A)
Full	Partial	Yes / No			
3/16/2012		Yes	Buddy Stubblefield (Bill Senner WGR)	Per New 1200Z Permit Requirements and Compliance with new DEQ order.	3/14/2012
1/11/2011		No	Buddy Stubblefield, Richy Hudiburgh, Bill Dungan, Mike Poirier		
8/10/2010		No	Mike Poirier		
12/14/2007		No	Buddy Stubblefield, Ricky Hudiburgh, Bill Dungan, Mike Poirier		
	6/4/2012	Yes		Revision efforts NuStar has performed, per New 1200Z Permit & City of Portland Waterboard requests.	6/11/2012
6/11/2012		Yes	Buddy Stubblefield, John Sherman, Bill Senner (WGR)	Revision efforts NuStar has performed, per New 1200Z Permit & City of Portland Waterboard requests.	6/19/2012
5/2/2013		Yes	Chris Chan and Steve Kober	Request from City of Portland; annual review and update; personnel and facility update	5/2/2013
	10/8/2013	Yes	Chris Chan	Update Personnel Information in SWPPP	10/8/13
	9/24/2014	Yes	Chris Chan	Update sampling program (Section 6.2); Update structural controls BMP (Section 7.2-1)	9/24/2014
5/29/2014		Yes	Chris Chan	Updated pollutant sources relating to tenant changeout at Building #8 in section 4.4; updated inspection logs for Contech filter in Appendix A.	6/30/2014
	9/24/2014	Yes	Chris Chan	Sampling waiver received on 9/4/14. Updated sampling program protocol in section 6.2. Updated structural controls and BMP to include epoxy coating of P2 oil/water separator and drainage.	9/24/2014
	2/2/2015	Yes	Daniel Butler, TRC	Update tank information.	2/2/2015
3/16/2015		Yes	Chris Chan	Update 1) Regional office address; 2) General Manager information; 3) "Sampling Data Summary" Section 6.2;	3/18/2015
8/15/2016		Yes	Chris Chan	Annual Review - Update plan and monitoring language for clarification	8/15/2016

FIGURE 1.3-1 - RECORD OF REVIEWS [EPA 832-R-92-006; 2.5.3], CONTINUED

Date of Review[1]		Will Plan Need Amendment?[2]	Reviewer's Signature[3]	Reason for Amendment[4]	Date of Amendment (or N/A)
Full	Partial	Yes / No			
	1/2/2017	Yes	Steve Kober / Chris Chan	Personnel change. Updated team members.	1/4/2017
11/14/2016		Yes	Steve Kober / Chris Chan	Update site info, contact and personnel info.	11/14/2016
7/25/2016		No	Steve Kober	Annual Review	
12/27/2017		Yes	Chris Chan / Jeff Hibner / APEX-Gary Walvatne	New 1200Z permit	12/27/2018
7/24/2017		No	Steve Kober		
7/27/2018		No	Jeff Hibner		
5/9/2019		Yes	Chris Chan	Personnel change. 1200Z reissuance update. Map update.	5/9/2019
7/31/2019		No	Jeff Hibner	N/A	
8/25/2021		Yes	Ian Maguire	New 1200Z permit	8/31/2021
7/25/2022		Yes	Buddy Stubblefield/Ryan Groesbeck/Kyle Bell, GeoEngineers – Ian Maguire	Update personnel info as part of annual review and update figures and text to address inspection comments from City of Portland in June 13, 2022 letter.	7/25/2022

1. A full review of the plan must be performed at least once every five years.

2. Any addition of new sources of significant materials or a change in design, construction, operation or maintenance, which will have a significant effect on the potential to contaminate stormwater runoff from this facility will require an amendment to this plan, including a description of controls to be used to minimize exposure of such materials to stormwater runoff. If amendment of the plan is required for these reasons, or as the result of a Site Compliance Evaluation, amendment of the plan must be completed.

3. Reviewer's printed name indicates that he/she has completed review and evaluation of this plan on the date indicated and will or will not amend the plan as a result, as indicated.

4. Briefly describe reasons for plan amendment, as required in footnote 2. For administrative changes not subject to the criteria identified in footnote 2, such as updates to names or phone numbers, regulatory changes, or changes in company policies, these will be entered in the Record of Changes Form (**FIGUREC-1**).

FIGURE 1.3-2 - DISTRIBUTION LIST [EPA 832-R-92-006; 2.6.3]

This plan is maintained on-site and is available for review by the U.S. EPA Regional Administrator, State Permitting Authority, and local Municipal Storm Sewer System Operator as necessary. If this plan is combined with other environmental response plans a copy shall be provided to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and other local authorities as identified below.

PLANHOLDER	ADDRESS	NUMBER OFCOPIES	
		PAPER	ELECTRONIC
City of Portland Copy, Water & Pollution Control Lab	**Office Address:** 6543 N. Burlington Ave. Portland, OR 97203-5452	1	0
Portland Terminal, Shore Terminals LLC, Attn: Terminal Manager	**Office Address:** 9420 N.W. St. Helens Road Portland, OR 97231	1	0
Corporate HSE Department	**Office Address:** 19003 IH-10 West San Antonio, TX78257	0	1
NuStar Regional Office - West Region Environmental File Attn: Sr. HSE Manager	**Office Address:** 9280 West Stockton Blvd., Suite 220 Elk Grove, CA95758	0	1
DEQ Northwest Region, Oregon Department of Environmental Quality	**Office Address:** 2020 SW 4th Ave., Suite 400 Portland, OR 97201-4987	1	0

SECTION 2
STORMWATER POLLUTION PREVENTION TEAM

Last Revised: August 31, 2021

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2.1 SWPP TEAM [EPA 832-R-92-006; 2.1.1]

2.1 SWPP TEAM [EPA 832-R-92-006; 2.1.1]

The Stormwater Pollution Prevention Team for this plan is identified below.

STORMWATER POLLUTION PREVENTION TEAM			
TEAM LEADER			
Name and Title:	Groesbeck, Ryan Terminal Manager - Portland	**Contact Numbers:**	503-286-6732 Ext. 7118 (Office) 360-949-0913* (Mobile) ryan.groesbeck@nustarenergy.com
Responsibilities:			
Certification of SWPCP and reports. Overall stormwater program implementation.			
TEAM MEMBERS			
Name and Title:	Groesbeck, Ryan Terminal Manager - Portland	**Contact Numbers:**	503-286-6732 Ext. 7118 (Office) 360-949-0913* (Mobile) ryan.groesbeck@nustarenergy.com
Name and Title:	Shore Terminals LLC.		
Name and Title:	Bell, Kyle Operations Supervisor - Portland	**Contact Numbers:**	360-949-0913* (Mobile) kyle.bell@nustarenergy.com
Name and Title:	Flett, Aaron Area Manager - PNW	**Contact Numbers:**	503-286-6732 (Office) 360-567-8871* (Mobile)
Name and Title:	Vratil, Chris General Manager - Pipeline and Terminal Operations	**Contact Numbers:**	361-906-7454* (Mobile) chris.vratil@nustarenergy.com
Name and Title:	Roberts, Jim Director of Health, Safety and Environmental	**Contact Numbers:**	530-204-7079* (Mobile) jim.roberts@nustarenergy.com
Name and Title:	Stubblefield, Buddy HSE Manager -- West Region	**Contact Numbers:**	916-509-3238 (Office) 916-753-4756* (Mobile) buddy.stubblefield@nustarenergy.com
Name and Title:	Portland Terminal Operators	**Contact Numbers:**	503-969-4555* (Office)
Name and Title:	Maguire, Ian Environmental Consultant (GeoEngineers, Inc.)	**Contact Numbers:**	503-906-6577 (Office) 503-949-1084* (Mobile) imaguire@geoengineers.com
Responsibilities:			
Groesbeck (Terminal Manager): responsible of overall stormwater program implementation. Operation: Assists with overall stormwater program implementation including sampling and reporting.			

2.1 SWPP TEAM [EPA 832-R-92-006; 2.1.1], CONTINUED

STORMWATER POLLUTION PREVENTION TEAM, CONTINUED
Responsibilities:
Groesbeck: Oversee operators to make sure all the related stormwater tasks are completed properly. Groesbeck/Bell/Flett: Initiates procedures for new operations/equipment, coordinates new operations with customers and/or suppliers and approves capital for SWPCP operations/equipment. Terminal Operators: Operate stormwater/tank farm isolation valves, control the release of stormwater from the facility, perform wet weather inspections, and coordinate stormwater related maintenance issues. Roberts/Stubblefield/Groesbeck: Provides annual training and technical assistance to the terminal personnel for stormwater compliance issues. Roberts/Stubblefield - Annual DMR is reviewed by HSE and Team Leader and certified by Terminal Manager as Responsible Officer. Environmental Consultant (GeoEngineers, Inc.): Coordinate sampling events with Terminal Operators, collect discharge samples and manage samples, prepare sampling event summaries for Groesbeck, Bell, and Stubblefield, prepare draft DMRs for review.

SECTION 3
FACILITY MAPS AND DIAGRAMS

Last Revised: August 31, 2021

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3.1 Facility Map and Diagram Requirements [EPA 832-R-92-006; 2.2.1]

3.2 Facility Maps and Diagrams [EPA 832-R-92-006; 2.2.1]

Figure 3-1 - Site Area Map

Figure 3-2 - Site Location Map Figure 3-3 - Site Vicinity

Plan

Figure 3-4 - Norther Facility Stormwater Drainage 2019 05 10

Figure 3-5 - Southern Facility Stormwater Drainage

Figure 3-6 - Water Flow Diagram

3.1 FACILITY MAP AND DIAGRAM REQUIREMENTS [EPA 832-R-92-006; 2.2.1]

3.1 Facility Map and Diagram Requirements [EPA832-R-92-006;2.2.1]
Topographic Vicinity Map
Refer to FIGURE 3.1 - Site Area Map
Refer to FIGURE 3.2 - Site Location Map (Portland Terminal).
Refer to FIGURE 3.3 -- Site Vicinity Map.
Terminal Drainage and Outfall Site Map
Refer to FIGURE 3.4 and 3.5
The site map includes the following information: Major water conveyance structures • Outline of areas that drain to each outfall • Location of sampling point & outfalls • Paved areas and buildings within the drainage areas • Areas used for any outdoor manufacturing, treatment, storage, and/or disposal of significant materials Existing structural control measures for reducing pollutants in stormwater runoff • Material loading and access areas • Hazardous waste treatment, storage and disposal facilities • Location of wells including waste injection wells, seepage pits, drywells, etc. Location of springs, wetlands, and other surface water bodies
Surface Stormwater flow and Piping Site Map
Refer to FIGURE 3.4 and 3.5
• This site map includes the following information: Surface drainage patterns • Paved areas and buildings within the drainage areas Stormwater conveyance structures • Piping flow direction
Wastewater Flow Diagram
Refer to FIGURE 3.4 and 3.5 -- Groundwater Systems and Well Locations
Refer to FIGURE 3.6 -- Wastewater flow
Other Detailed Drawings
These drawings are located in the main engineering office.
Detailed drawings of the drainage conveyance system and facility flow diagrams showing the locations and sizes of piping, collection devices, junction boxes, valves, and outfalls.

3.2 FACILITY MAPS AND DIAGRAMS [EPA 832-R-92-006; 2.2.1]

FIGURE 3-1 - SITE AREA MAP

Click to view/print Site Area Map

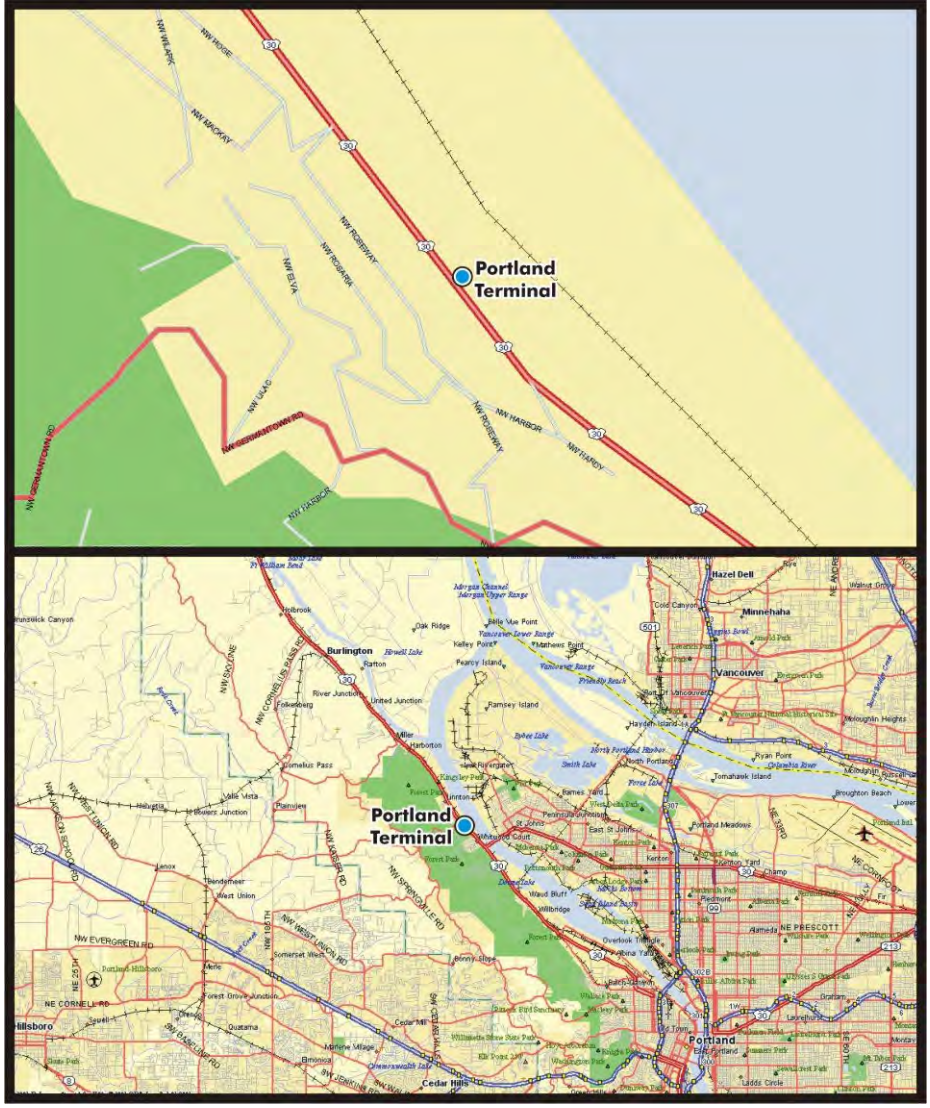
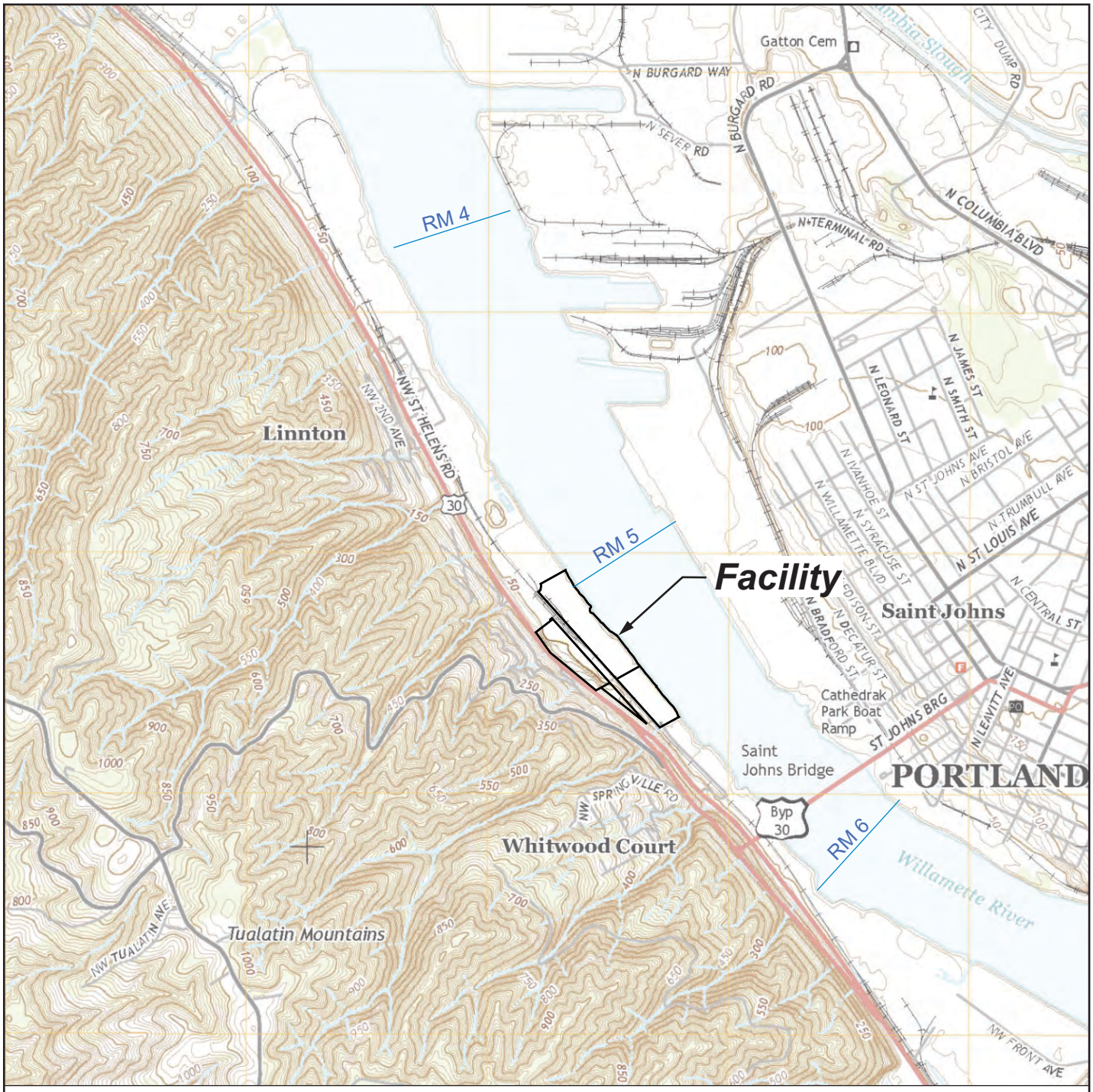

Portland
Terminal
NW MARK PK
NW RIDGE
NW MCKAY
NW RIDEWAY
NW ELVA
NW ROGARN
NW HARBOR
NW HAMEY
NW GERMANTOWN RD
NW HARBOR
Portland
Terminal
Burlington
Hazel Dell
Minnehaha
Vancouver
Hillsboro
Portland
Cedar Hills
NW EVERGREEN RD
NE CORNELL RD
NE PRESCOTT

FIGURE 3-2 - SITE LOCATION MAP

Click to view/print Site Location Map



Base map prepared from USGS 7.5-minute quadrangle of Linnton, Oregon, dated 2014, as provided by Topozone.

0 2,000 4,000

Scale in Feet

N

Facility Location Map

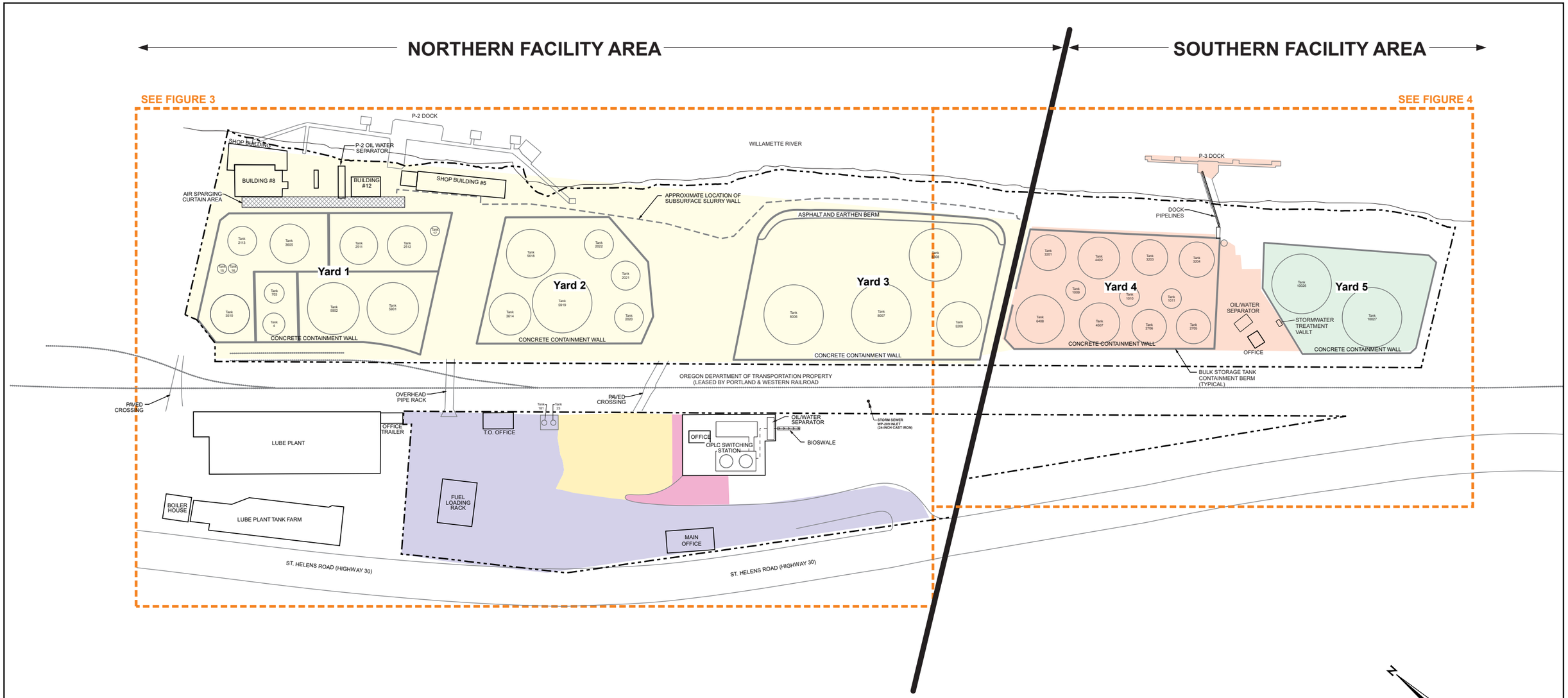
Stormwater Pollution Control Plan
Shore Terminals LLC Portland Facility
Portland, Oregon

GeoEngineers

Project Number	19001-010-03	Figure 1
August 2021		

FIGURE 3-3 - SITE VICINITY PLAN

Click to view/print Site Vicinity Plan



Legend:

- Upper Terminal Drainage area
- P2 Drainage Area
- P3 Drainage Area
- Area Drains to POTW
- OPLC Parking Drainage Area
- Terminal Driveway Drainage Area
- Property Boundary

NOTE: Base map prepared from a Site Map by Acton Mickelson Environmental, Inc., 11-29-2005, a Spill Prevention, Control, and Countermeasure Plan, Figure 2 (Site Plan) by Hart Crowser, Inc., 10-03, and a recent aerial photograph from Google.com.

Site Vicinity Plan

Stormwater Pollution Control Plan
Shore Terminals, LLC Portland Facility
Portland, Oregon

GeoEngineers

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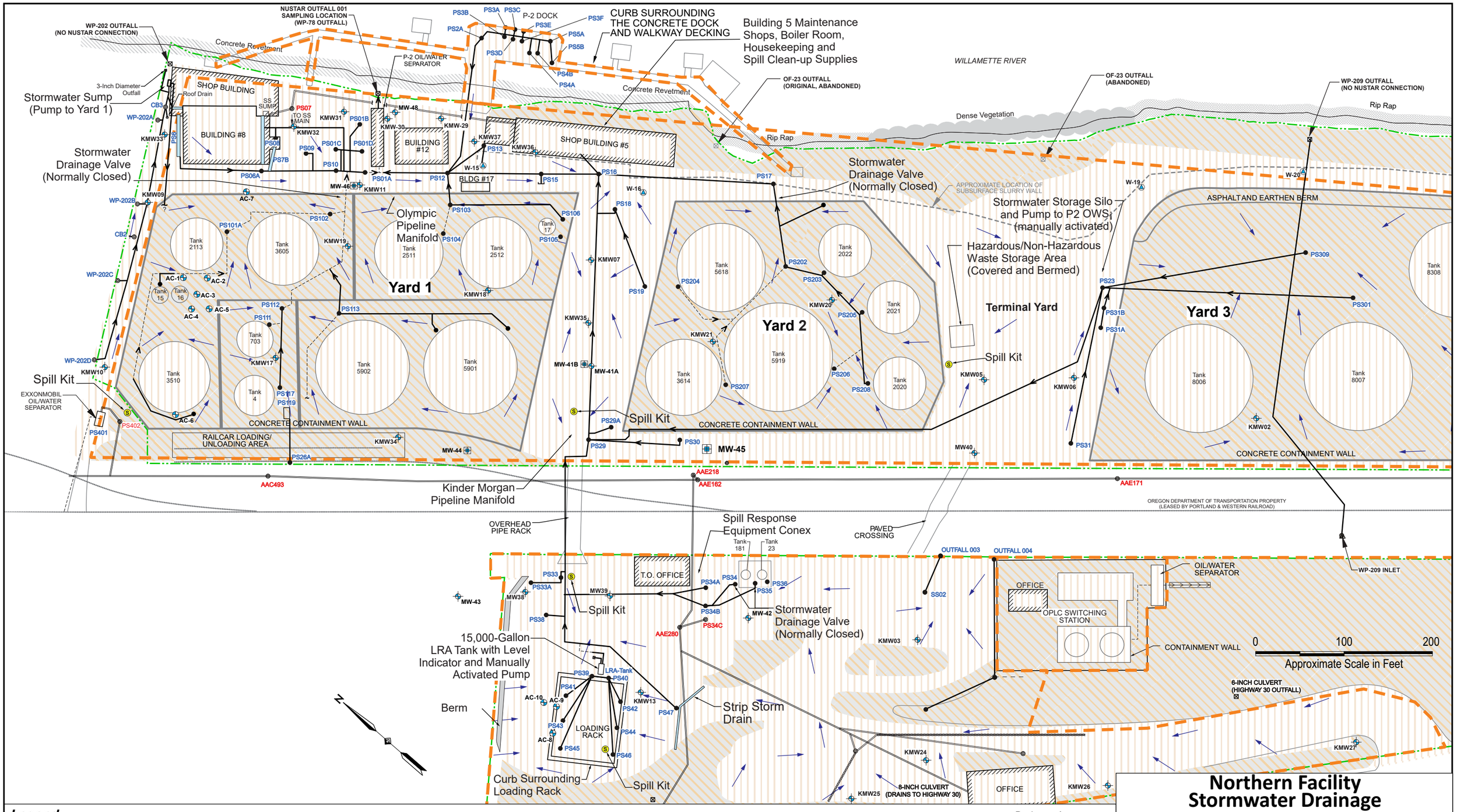
August 2021		2

FIGURE 3-4 - NORTHER FACILITY STORMWATER DRAINAGE 2019 05 10

Click to view/print Norther Facility Stormwater Drainage 2019 05 10



Legend:

- Property Boundary
- PS07 Catch Basin/Manhole Location Sanitary Sewer Line
- PS34B Catch Basin/Manhole Location Storm Sewer Line
- Surface Water Flow
- Outfall
- Inlet
- Storm Sewer Line and Flow
- Unconfirmed Underground Piping
- Sanitary Sewer Line and Flow
- Trench Drain
- Slurry Wall
- Impervious Area
- Pervious Area
- Bioswale
- MW-3 Monitoring Well Location (Time Oil or Ash Creek)
- KMW11 Monitoring Well Location (Exxon Mobil; Shallow Sand Unit)
- MW-41B Monitoring Well Location (Exxon Mobil; Deep Sand Unit)
- W-1 Groundwater Extraction Well Location (Exxon Mobil) (Currently Used for Monitoring Only)
- Drainage Area Boundary
- Spill Kit (Spill Kit Content See Page 5-7 for description of spill kit contents.
- French Drain

Northern Facility Stormwater Drainage

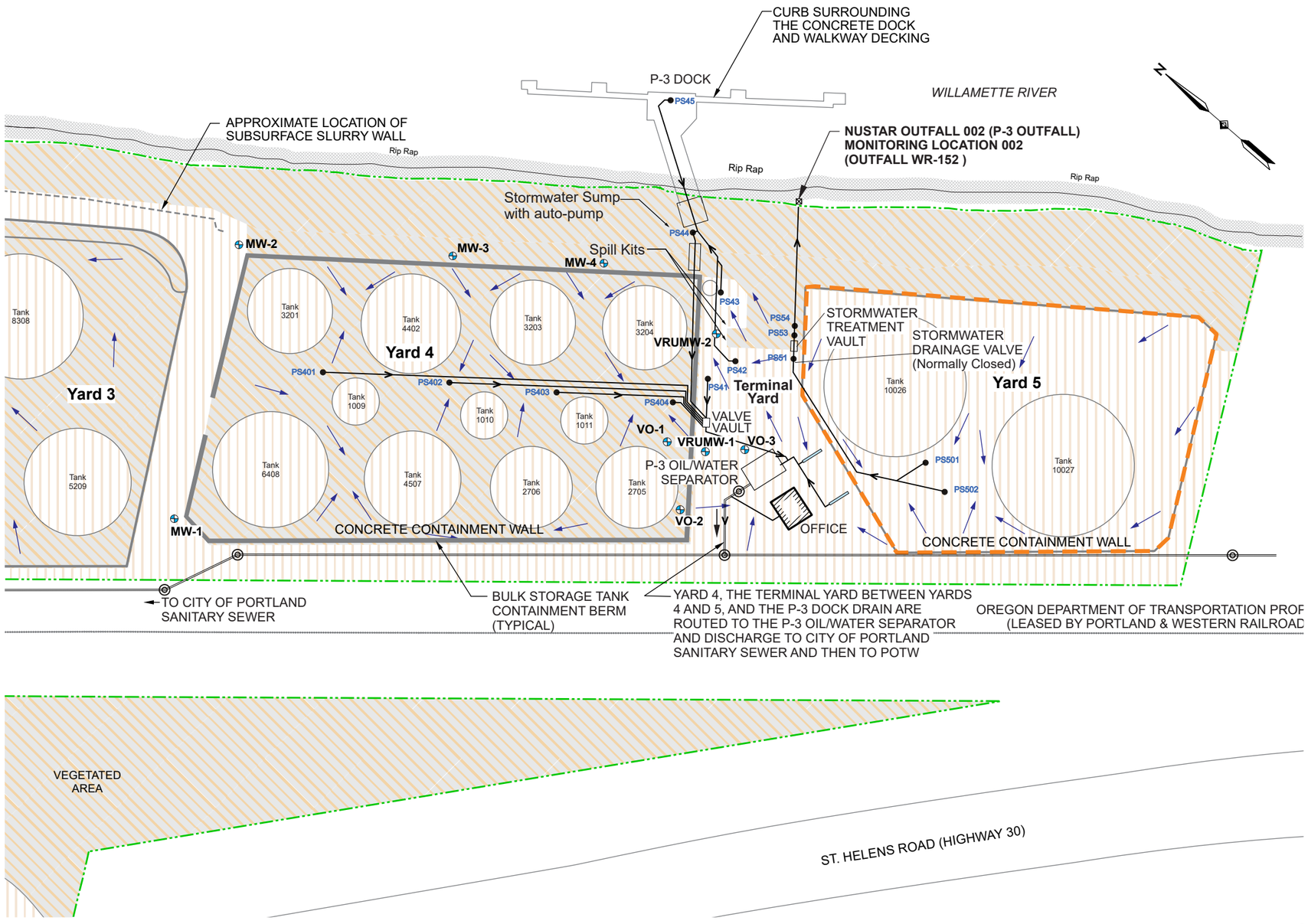
Stormwater Pollution Control Plan
Shore Terminals LLC Portland Facility
Portland, Oregon

GeoEngineers

Project Number	019001-010-03	Figure
August 2022		3

FIGURE 3-5 - SOUTHERN FACILITY STORMWATER DRAINAGE

Click to view/print Southern Facility Stormwater Drainage



Legend:

- Property Boundary
- PS07 Catch Basin/Manhole Location Sanitary Sewer Line
- PS34B Catch Basin/Manhole Location Storm Sewer Line
- Outfall
- Storm Sewer Line and Flow
- Sanitary Sewer Line and Flow
- Trench Drain
- Slurry Wall
- Impervious Area
- Pervious Area
- Drainage Area Boundary
- Surface Water Flow
- MW-3 Monitoring Well Location (Time Oil or Ash Creek)
- KMW11 Monitoring Well Location (Exxon Mobil; Shallow Sand Unit)
- MW-41B Monitoring Well Location (Exxon Mobil; Deep Sand Unit)
- W-1 Groundwater Extraction Well Location (Exxon Mobil) (Currently Used for Monitoring Only)

0 100 200

Approximate Scale in Feet

NOTE: Base map prepared from a Site Map by Acton Mickelson Environmental, Inc., 11-29-2005, Facility Drainage Maps, Figure 2 (Site Plan) by Hart Crowser, Inc., 10-03, and a recent aerial photograph from Google.com.

Southern Facility Stormwater Drainage

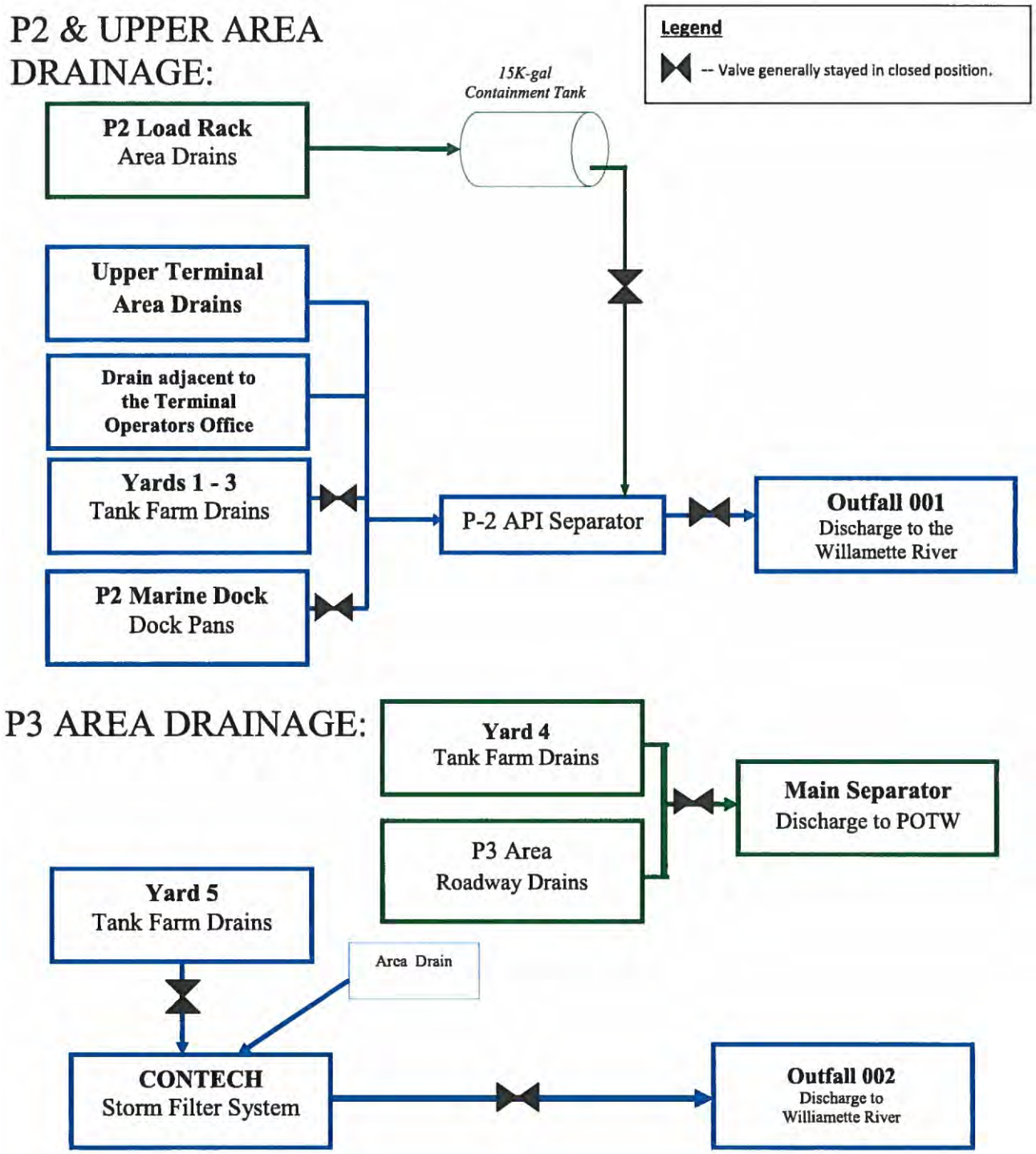
Stormwater Pollution Control Plan
Shore Terminals LLC Portland Facility
Portland, Oregon

GeoEngineers

Project Number	019001-010-03	Figure 4
August 2022		

FIGURE 3-6 - WATER FLOW DIAGRAM

Click to view/print Water Flow Diagram



Water Flow Diagram

Stormwater Pollution Control Plan
Shore Terminals, LLC Portland Facility
Portland, Oregon

GeoEngineers	Project Number 19001-010-03	Figure 5
	AUGUST 2021	

SECTION 4

Last Revised: August 31, 2021

POLLUTANT SOURCES AND STATE REQUIREMENTS

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4.1 Material Inventory - Potential Pollutant Sources and BMPs EPA 832-R-92-006; 2.2.2]
Figure 4.1-1 - Potential Pollutant Sources and BMPs

4.2 Spill History [EPA 832-R--006; 2.2.3]

4.3 Non-Stormwater Discharges [EPA 832-R-92-006; 2.2.4]

Figure 4.3-1 - Authorized Non-Stormwater Discharges

Figure 4.3-2 - Non-Stormwater Discharge Assessment and Certification

4.4 Site Evaluation of Potential Pollutant Sources [EPA 832-R-92-006; 2.2.6]

4.5 State-Specific Requirements

4.1 MATERIAL INVENTORY - POTENTIAL POLLUTANT SOURCES AND BMPS [EPA 832-R-92-006; 2.2.2]

The table provided in **FIGURE 4.1-1** identifies potential pollutant sources and Best Management Practices (BMPs) that are in place to control these sources.

FIGURE 4.1-1 - POTENTIAL POLLUTANT SOURCES AND BMPS

Container/ Source	Storage Capacity (gal)	Secondary Containment Volume Type (gal)	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Potential Affected Outfall and MH	Best Management Practices (Structural / Non-Structural)
ABOVEGROUND CONTAINERS - Total: 53,310,974							
703	309,498	4,539,290 / 8	242,718	Northeast / Instantaneous	Diesel / Renew able Diesel	Outfall 1	See Section 7
1009	392,887	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	366,366	Northeast / Instantaneous	Gasoline/Diesel/Transmix	Outfall 2	See Section 7
1010	393,264	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	342,636	Northeast / Instantaneous	Out of Service	Outfall 2	See Section 7
1011	393,149	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	384,510	Northeast / Instantaneous	Ethanol / Gasoline	Outfall 2	See Section 7
2020	821,940	4,010,540/ 8	750,960	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
2021	832,032	4,010,540/ 8	743,148	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
2022	832,032	4,010,540/ 8	751,748	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
2113	865,857	4,539,290/ 8	698,922	Northeast / Instantaneous	Bio Diesel	Outfall 1	See Section 7
2511	1,060,587	4,539,290/ 8	1,001,742	Northeast / Instantaneous	Diesel / Renew able Diesel	Outfall 1	See Section 7
2512	1,049,887	4,539,290/ 8	1,003,926	Northeast / Instantaneous	Diesel / Renew able Diesel	Outfall 1	See Section 7
2705	1,158,532	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	981,246	Northeast / Instantaneous	Diesel / Biodiesel	Outfall 2	See Section 7
2706	1,085,895	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,071,000	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7
3201	1,264,793	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,243,998	Northeast / Instantaneous	Ethanol	Outfall 2	See Section 7
3203	1,265,942	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,250,071	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7
3204	1,267,302	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,249,542	Northeast / Instantaneous	Gas/Diesel	Outfall 2	See Section 7
3510	1,456,109	4,539,290/ 8	1,172,430	Northeast / Instantaneous	Ethanol / Gasoline	Outfall 1	See Section 7
3605	1,236,060	4,539,290/ 8	1,376,886	Northeast / Instantaneous	Diesel / Renew able Diesel	Outfall 1	See Section 7
3614	1,398,810	4,010,540/ 8	1,295,238	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7

FIGURE 4.1-1 - POTENTIAL POLLUTANT SOURCES AND BMPS, CONTINUED

Container/ Source	Storage Capacity (gal)	Secondary Containment Volume Type (gal)	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Potential Affected Outfall and MH	Best Management Practices (Structural / Non-Structural)
ABOVEGROUND CONTAINERS - Total: 53,310,974							
4402	1,761,801	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,738,800	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7
4507	1,849,692	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	1,825,740	Northeast / Instantaneous	Ethanol / Gasoline	Outfall 2	See Section 7
5209	2,190,678	4,539,290/ 8	1,997,100	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
5618	2,220,204	4,010,540/ 8	2,142,294	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
5901	2,414,958	4,539,290 / 8	2,032,182	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
5902	2,386,734	4,539,290 / 8	2,006,802	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
5919	2,147,688	4,010,540/ 8	2,259,642	Northeast / Instantaneous	Diesel	Outfall 1	See Section 7
6408	2,649,782	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	2,594,466	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7
8006	3,379,698	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	3,004,722	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	see Section 7
8007	3,338,748	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	2,662,044	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
8308	3,352,746	5,580,941/ 8 (Berms 3&4 Interconnected Combined Volumes)	3,061,632	Northeast / Instantaneous	Gasoline/Diesel	Outfall 1	See Section 7
1315	56,124	4,539,290/ 8	51,366	Northeast / Instantaneous	Permanently Closed	Outfall 1	See Section 7
1316	56,112	4,539,290/ 8	51,366	Northeast / Instantaneous	Permanently Closed	Outfall 1	See Section 7
181	7,685	10,129/ 2	3,000	Northeast / Instantaneous	Gasoline / Diesel Additive	Outfall 1	See Section 7
23	10,048	13,505/ 2	7,500	Northeast / Instantaneous	Gasoline / Diesel Additive	Outfall 1	See Section 7
212	Stored Empty		0	Northeast / Instantaneous	N/A	Outfall 2	See Section 7
10026	4,200,000	5,444,729/ 8	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7
10027	4,200,000	5,444,729/ 8	4,200,000	Northeast / Instantaneous	Gasoline/Diesel	Outfall 2	See Section 7

FIGURE 4.1-1 - POTENTIAL POLLUTANT SOURCES AND BMPS, CONTINUED

Container/ Source	Storage Capacity (gal)	Secondary Containment Volume Type (gal)	Quantity Stored (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored	Potential Affected Outfall and MH	Best Management Practices (Structural / Non-Structural)
ABOVEGROUND CONTAINERS - Total: 53,310,974							
Tank 4 (Dryer Storage Tank)				-	Out of Service		
Tank 01 (Oil Water Separator Tank)	3,700	67,000		-	-		
Tank 17		4,539,290/ 8		-	-		
Tank 1104		4,539,290/ 8		-	Permanently Closed		
MISCELLANEOUS - Total: 7,069							
Rail Area	44	59	N/A	Contained	Diesel / Biodiesel / Ethanol	Outfall 1	Structural and Non-Structural
VRU	220	>1000	220	Contained	GLYCOL ETHER DM	Outfall 1	See Section 7
2 Drums - Investigation Derived Waste	55	66 gal per secondary containment pallet		Contained	Petroleum Contact Water		
2 Tote - Red Dye	300 each	16,159	600	Northeast / Instantaneous	Red Dye	Outfall 1	See Section 7
3 Tote - Lubricity Additive	300 each	16,159	900	Northeast / Instantaneous	Lubricity Additive	Outfall 1	See Section 7
Truck Rack	6,000	16,159	N/A	Northeast / Instantaneous	Petroleum Products	Outfall 1	See Section 7
Loading Arm	750	16,159	N/A	Northeast / Instantaneous	Petroleum Products	Outfall 1	See Section 7
OIL FILLED ELECTRICAL EQUIPMENT- Total: 180							
Transformers (2 ea.)	180	996	180	Northeast / Instantaneous	Lube Oil		See Section 7
Facility Total: 53,318,223							

Containment Type: 1=Earthen Berm and Floor, 2=Concrete Berm and Floor, 3=Earthen berm and Concrete Floor, 4=Metal Berland Floor, 5=Portable Containment or Inside Building, 6=Double Walled, 7=Coated Asphalt Materials, 8=Concrete berm and Earthen, 9=Asphalt, Soil, and Concrete walls and Earthen Floor * Not in Containment Area, ** Curbing and containment system

4.2 SPILL HISTORY [EPA 832-R--006; 2.2.3]

The following table identifies all material that has come in contact with stormwater as a result of a spill or leak for each of the three (3) years preceding the effective date of the NPDES General Permit. This listing includes all releases of a reportable quantity reported to an outside agency, or that had the potential to impact the facilities discharge prior to cleaning up the spill.

Date	N/A	**Spill or Leak**	N/A	**Quantity**	N/A
Type of Material	N/A		**Source (if known)**	N/A	
Location	N/A		**Reason**	N/A	

Exposed to Stormwater Yes/No/NA	Response Procedures (Amount Material Recovered)	Preventative Measures
N/A	N/A	N/A

July 1, 2020

Mr. Michael Greenburg
State On-Scene Coordinator
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 972324100
Greenburg.Michael@Deq.state.or.us
DOSPILLS@DEQ.STATE.OR.US

RE: Shore Terminals LLC – 9420 NW St. Helens Road, Portland, OR
30-Day Spill/Release Report – Biodiesel Spill Incident (OERS 2020-1339)

Mr. Greenburg,

Attached is Shore Terminals LLC's 30-Day Spill/Release Report for the biodiesel incident that occurred on 6/1/2020.

If you have any question, please do not hesitate to contact me.

Sincerely,

Chris Chan
Sr. HSE Manager – WR
(916) 296-3853
Chris.Chan@NuStarEnergy.com

CC: Ken Thiessen, ODEQ Remediation Project Manager

SPILL/RELEASE REPORT

DEQ
State of Oregon
Department of
Environmental
Quality

1 - GENERAL INFORMATION **OERS No.** 2020-1339

a. Company/Individual Name: Shore Terminals LLC

b. Address: 9420 NW St. Helens Rd., Portland, OR 97231

c. Company Contact Person: Chris Chan

d. Phone Number(s): (916) 296-3853

e. Report Prepared by: Chris Chan Phone: (916) 296-3853

f. Specific on-site location of the release (and address if different from above):
The pump that malfunctioned was biodiesel pump (P-016B), and it is located near the southwest corner outside of Yard 1. See attached map.

Please provide a map of the site showing area(s) where the release occurred, any sample collection locations, location of roads/ditches/surface water bodies, etc.

2 - RELEASE INFORMATION

a. Date/Time Release started: 6/1/2020 (06:08) Date/Time stopped: 6/1/2020 (07:15)

b. Release was reported to (specify Date/Time/Name of Person contacted where applicable):

ODEQ 6/1/2020, 15:26 PST via NRC and OERS

OERS 6/1/2020, 15:24 PST (OERS #2020-1339)

NRC 6/1/2020, 15:15 PST (Report #1278575)

Other (describe):

c. Person(s) reporting release: Chris Chan

d. Name, quantity and physical state (gas, liquid, solid or semi-solid) of material(s) released:
B99 Biodiesel fuel, 31 bbl (liquid). See attached SDS.

Please attach copies of material safety data sheets (MSDS) or constituent profiles for released material(s).

e. The release affected: ____Air ____Groundwater ____Surface Water __X__Soil ____Sediment

f. Name and distance to nearest surface water body(s), even if unaffected (include locations of creeks, streams, rivers and ditches that discharge to surface water on maps):
Willamette River is approximately 380 feet from the pump.

Has the release reached the surface water identified above?: ____Yes __X__No
Could the release potentially reach the surface water identified above? ____Yes __X__No
Explain: See attached.

g. Depth to nearest aquifer/groundwater: See attached.

Is nearest aquifer/groundwater potable (drinkable)? ____Yes __X__No
Has the release reached the nearest aquifer/groundwater? ____Yes __X__No
Explain: See attached.

h. Release or potential release to the air occurred? ____Yes __×__No
Explain: See attached.

i. Was there a threat to public safety? ____Yes __×__No
j. Is there potential for future releases? ____Yes __×__No
Explain: See attached.

k. Describe other effects/impacts from release (emergency evacuation, fish kills, etc.):
No other impacts have been identified. Operation was put on halt following the initial discovery.

l. Describe how the release occurred. Include details such as the release source, cause, contributing weather factors, activities occurring prior to or during the release, dates and times of various activities, first responders involved in containment activities, etc.:
See attached.

3 - SITE INFORMATION

a. Adjacent land uses include (check all that apply and depict on site maps):
____Residential ____Commercial __×__Light Industrial ____Heavy Industrial
____Agricultural ____Other (describe):
b. What is the population density surrounding the site: Approximately 2,000 within 1 mile of the site.
c. Is the site and/or release area secured by fencing or other means? __×__Yes ____No
d. Soil types (check all that apply): __×__alluvial ____ bedrock ____ clay __×__sandy
__×__silt ____ silty loam ____artificial surface (cement/asphalt/etc.)
e. Describe site topography: The topography of the release area is relatively flat.

4 - CLEANUP INFORMATION

a. Was site cleanup performed? __×__Yes ____No
If No, explain:

b. Who performed the site cleanup?

Company Name:	1) Cowlitz Clean Sweep Inc. International (CCS)	2) Telluric Enterprises LLC
Address:	9420 NW St. Helens Rd. (on-site office)	32859 SW Lakeview Rd.
	Portland, OR 97231	Hillsboro, OR 97123
Cleanup Supervisor:	Jerry Wade	Mark Vealey
Phone Number(s):	(503) 444-1781	(503) 717-2726 (cell)

c. Has all contamination been removed from the site? ____Yes __×__No
If No, explain: See attached.

d. Estimated volume of contaminated soil removed: Approximately 62 yd of soil/gravel was excavated.

e. Estimated volume of contaminated soil left in place: Less than 30 yd of soil left in place.

f. Was a hazardous waste determination made for cleanup materials? __×__Yes ____No

g. Based on the determination, are the cleanup materials hazardous wastes?
____Yes __×__No If Yes, list all waste codes:_____

h. Was contaminated soil or water disposed of at an off-site location? __×__Yes ____No

If yes, attach copies of receipts/manifests/etc., and provide the following information:

Facility Name: ORRCO

Address: 4150 N. Suttle Rd.
Portland, OR 97217

Facility Contact: ORRCO

Phone Number(s): (503) 286-8352

i. Is contaminated soil or water being stored and/or treated on-site? __×__Yes ____No
If yes, please describe the material(s), storage and/or treatment area, and methods utilized (attach additional sheets if necessary):
Soil/gravel is stored on site in bins with cover tarps. No on site treatment is expected.
Profile of the soil/gravel is attached.

j. Describe cleanup activities including what actions were taken, dates and times actions were initiated and completed, volumes of contaminated materials that were removed, etc. (attach additional sheets or contractor reports if necessary or more convenient):
See attached.

5 - SAMPLING INFORMATION

Attach copies of all sample data and indicate locations of sample collection on maps.

a. Were samples of contaminated soil collected? __×__Yes ____No ____N/A
b. Were samples of contaminated water collected? ____Yes ____No __×__N/A
c. Were samples collected to show that all contamination had been removed?
____Yes ____No __×__N/A
d. Describe sampling activities, results and discuss rationale for sampling methods:
See attached.

6 - ADDITIONAL INFORMATION

a. Provide a description or plan outlining the list of actions to be taken to prevent future releases from occurring.

See attached.

7 - SPILL REPORT CHECKLIST

To ensure that you have gathered all the information requested by the Department in this Spill/Release Report, please complete the following checklist:

_X_ Map(s), pre and post cleanup photos of the site showing buildings, roads, surface water bodies, ditches, waterways, point of the release, extent of contamination, areas of excavation and sample collection locations attached.

_X_ Material Safety Data Sheet (MSDS), or constituent profiles for released material(s) attached. **Note: an MSDS is not required for motor fuels.**

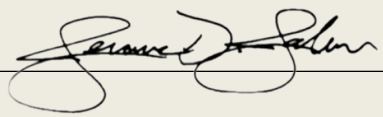
_X_ Sampling data/analytical results attached.

_X_ Receipts/manifests (if any) for disposal of cleanup materials attached.

_X_ Contractor reports (if any) attached.

If you would like to submit your report by e-mail an electronic version can be downloaded on the internet at this link: http://www.oregon.gov/deq/filterdocs/SpillReleaseReportForm.pdf. This form can then be submitted by e-mail to DOSPILLS@deq.state.or.us. Please ensure that emails submitted to DEQ are less than 8 MB each. Multiple emails can be submitted to the DEQ if a report has to be divided into smaller sections for transmittal.

I certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal are true, accurate and complete.

Signature:  Date: 7/1/2020

4.3 NON-STORMWATER DISCHARGES [EPA 832-R-92-006; 2.2.4]

To evaluate non-stormwater discharge, stormwater outfalls must be inspected and tested per the requirements of the facility's application for an NPDES General Permit. Inspection and testing are required to ensure that no illicit non-stormwater connections to the stormwater system exists. Examples of non-stormwater discharges include any water used directly in the manufacturing process and sanitary wastes. To check for non-stormwater discharges, one of the following three common dry weather tests can be used:

- Visual inspection
- Plant schematic review
- Dye testing

Refer to FIGURE 4.3-1 for authorized non-stormwater discharges. Refer to FIGURE 4.3-2 for non-stormwater discharge assessment and certification.

FIGURE 4.3-1 - AUTHORIZED NON-STORMWATER DISCHARGES

The following non-stormwater discharges are authorized by the NPDES General Permit and are expected to be present in stormwater following implementation of structural and non-structural preventive measures and source controls.

AUTHORIZED NON-STORMWATER DISCHARGES	
Discharge Source	**Estimated Frequency**
The Portland Terminal may discharge fire hydrant flush water, potable water, air conditioning / compressor condensate, refrigerator condensate, refrigerator condensate, landscape irrigation drainage on rare occasions. In the event that authorized non-stormwater discharge occurred, it flows through Outfall 001 or Outfall 002. In the case of landscape irrigation, there is potential for discharge along the riverbanks bordering the facility. All efforts are made to alleviate pavement wash water from entering any terminal storm drain. No wash water containing heated water, detergents, oils, toxics or hazardous materials will be discharge from the facility. No vehicle washing is performed at the facility. Occasionally the Truck Loading Rack incurs washing. Non-stormwater wash water generated during the pressure washing of the Truck Loading Rack is captured in the 15,000-gallon tank, which is then processed through the P-2 oil/water separator to treat the water before it is discharged through Outfall 001. Pavement washing does not occur if a spill or leak has occurred at the Truck Loading Rack until the spill material has been removed. Equipment washing may occasionally be performed throughout the facility but either percolates to permeable surfaces or is captured using vacuums or vacuum trucks.	Rarely

FIGURE 4.3-2 - NON-STORMWATER DISCHARGE ASSESSMENT AND CERTIFICATION

NON-STORMWATER DISCHARGE ASSESSMENT AND CERTIFICATION		
Date of Test/Evaluation	**Outfall Number**	**Test/Evaluation Method**
7/24/2007	Outfall 001 and Outfall 002	site evaluation
Description of Results	**Potential Sources**	**Name of Tester/Evaluator**
See SECTION 6	See SECTION 4.4	John Teravskis
Date of Test/Evaluation	**Outfall Number**	**Test/Evaluation Method**
11/28/2017	Outfall 001 and 002	Site Evaluation
Description of Results	**Potential Sources**	**Name of Tester/Evaluator**
Section 6	Section 4	Gary Walvatne/APEX

FIGURE 4.3-2 - NON-STORMWATER DISCHARGE ASSESSMENT AND CERTIFICATION, CONTINUED

NON-STORMWATER DISCHARGE ASSESSMENT AND CERTIFICATION, CONTINUED	
CERTIFICATION	
I, the Plant Manager, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
Printed Name:	Ryan Groesbeck
Contact Number(s):	503-286-6732 Ext. 7118 (Office) 360-949-0913* (Mobile)
Title:	Terminal Manager
Date:	07/25/22
Signature:	

4.4 SITE EVALUATION OF POTENTIAL POLLUTANT SOURCES [EPA 832-R-92-006; 2.2.6]

The following facility areas and activities have been evaluated for Potential Pollutant Sources with a high potential to contaminate stormwater, including those associated with fueling stations, vehicle maintenance shops, equipment or vehicle cleaning areas, dirt or gravel parking areas for storage of vehicles to be maintained, materials loading and unloading, outdoor storage, outdoor manufacturing or processing, onsite waste disposal, and significant dust or particulate generating activities.

4.4 Site Evaluation of Potential Pollutant Sources [EPA832-R-92-006;2.2.6]
Potential Pollutants
There are a number of pollutants at the Portland Terminal that may potentially enter the stormwater conveyance system following a spill including gasoline, diesel, biodiesel, ethanol, renewable diesel, fuel additives; oil and grease, and substances related to the operation and maintenance of the terminal.
Piping and Product Receipt & Shipping
Pollutant Sources • Spills and leaks • Track out
Potential Pollutants Gasoline, diesel, biodiesel, ethanol, renewable diesel and fuel additives.
Drainage Area / Outfall P-2 & P-3 Drainage Areas / Outfalls 001 & 002
The Portland Terminal has 5 tank farms (Yards 1, 2, 3, 4, and 5), 4 pipeline connection manifolds, 2 marine docks, a rail off-load spur, a Truck Loading Rack, and truck offload areas. Portions of the Upper Terminal, Yards 1, 2 & 3, two Olympic Pipeline manifolds, the P-2 Kinder Morgan (KM) Pipeline manifold, and the P-2 marine dock drain to the P-2 API oil/water separator, which discharges via NPDES Outfall 001. The truck Loading Rack drains to a 15,000-gallon storage tank and manually drains to the P-2 API oil/water separator if there is no spill. A spill in the rail off-load spur is captured in a catch pan and drains to waste collection containers. Drain valves from the tank farms are kept closed. Following a visual inspection by the terminal operators, the valves can be opened and accumulated stormwater is allowed drain to the P-2 oil/water separator. Yard 5, which is lined, and the adjacent area drain through a stormwater filtration treatment system (Contech filter) and discharge via NPDES Outfall 002. Yard 4, the P-3 KM pipeline manifolds, and the P-3 dock drain to the P-3 oil/water separator and discharge to the City's publicly-owned treatment works (POTW).
Railcar Area
Pollutant Sources • Spills and leaks • Unloading • Track out • Windblown • Roadway traffic
Potential Pollutants Oil and grease, gasoline, ethanol, biodiesel, diesel and renewable diesel, sediment, and dust.
Drainage Area / Outfall N/A

The Portland Terminal has a rail spur that extends off of the rail lines that pass through the terminal. The rail spur has four unloading berths. Containment pans are located in between the tracks and at the connection point at each of these berths to capture any drips or spills that result from the tank cars and hoses. If a large spill occurs, the spilled product would be transferred to collection containers and handled according to NuStar waste handling policy. During periods of heavy rainfall, stormwater in this area percolates into the surrounding gravel surface. The Portland Terminal does not perform locomotive sanding in the railcar area.

4.4 SITE EVALUATION OF POTENTIAL POLLUTANT SOURCES [EPA 832-R-92-006; 2.2.6], *CONT.*

4.4 Site Evaluation of Potential Pollutant Sources [EPA832-R-92-006;2.2.6], Continued
Tank Farms (Yards 1, 2, 3, 4, and 5) and Additive Tank Containment
Pollutant Sources Spills and leaks from failures or overfills Loading and unloading Windblown Roadway traffic
Potential Pollutants Gasoline, diesel, biodiesel, ethanol, renewable diesel and fuel additives, oil, grease, contaminated wastewater, fire suppression foam, suspended solids.
Drainage Area / Outfall Upper Terminal Are and P-2 & P-3 Drainage Areas / Outfalls 001 & 002
The Portland Terminal has 33 large and 7 small aboveground product storage tanks which are located within secondary containment tank basins (Yards 1 - 5). The current total storage capacity of the Portland Terminal is approximately 1,269,309 barrels of product. Stormwater is impounded in the tank farms and allowed to dissipate by evaporation and percolation. If stormwater levels reach a point that they impede operations or affect safety, stormwater is drained from Yards 1, 2, and 3 to the P-2 oil/water separator and discharged via NPDES Outfall 001. Stormwater from Yard 4 is discharged to the P-3 oil/water separator and the City's sanitary sewer. Stormwater from Yard 5 is discharged through the Contech stormwater treatment system and discharged to the river via NPDES Outfall 002. No vehicle washing is performed at the facility. Equipment washing may occasionally be performed throughout the facility, but the wash water either percolates, evaporates, or is captured using P-2 oil/water separator treatment system. No washing with hot water or detergent is performed.
Truck Loading Rack
Pollutant Sources • Spills and leaks • Track out • Loading and unloading • Windblown • Roadway traffic
Potential Pollutants Gasoline, diesel, biodiesel, ethanol, renewable diesel, fuel additives, red dye, oil, grease, suspended solids, and dust.
Drainage Area / Outfall Upper Terminal Area / Outfall 001
Gasoline, diesel, biodiesel, ethanol, renewable diesel and fuel additives are distributed at the Truck Loading Rack. The Portland Terminal Truck Loading Rack is located in the Upper Terminal Area. Stormwater, wash water, and spills in the loading rack area drain to a 15,000-gallon storage tank. If there is a spill or wash water from this area, the tank water would be transferred to an outside wastewater service in accordance with NuStar waste handling policy. If water content from this tank does not contain any spills or wash water from this area, stormwater from this tank after visual inspection would be transferred to the P-2 oil/water separator by opening the manual valve connected between the tank and P-2 oil/water separator. The Truck Loading Rack maintains containment by grading to area drains. A berm located west of the Truck Loading Rack is an added precaution in case of a significant spill. Equipment is washed and vehicles are never washed at the Portland Terminal. Wash downs or spills that occur on the load rack get shipped off-site for disposal or recycling. Fuel additive totes are stored under the Truck Loading Rack overhead coverage within the load rack containment area.

4.4 SITE EVALUATION OF POTENTIAL POLLUTANT SOURCES [EPA 832-R-92-006; 2.2.6], *CONT.*

4.4 Site Evaluation of Potential Pollutant Sources [EPA832-R-92-006;2.2.6], Continued
Terminal Office and Buildings
Pollutant Sources • Spills and leaks • Track out • Windblown • Roadway traffic
Potential Pollutants Oil and grease, gasoline, diesel, biodiesel, ethanol, renewable diesel, sediment, and dust.
Drainage Area / Outfall Upper Terminal Area, P-2 & P-3 Drainage Areas / Outfalls 001 & 002
There are 10 buildings at this facility. Roof drains connect to or flow to corresponding stormwater drainage system. Building 4 - Operator Office Building 5 - Maintenance Shop / Boiler Room. The Boiler Room intermittingly discharges condensate. The discharge is drained to the POTW piping system. Building 8 - Leased to tenant for warehouse storage Building 10 - Building next to parking lot at Upper Terminal Area Building 11 - Buildings next to parking lot at Upper Terminal Area Building 12 - Warehouse storage Building P-3 - Operator equipment office between Yard 4 and 5 Building Rail Control - Equipment control room for rail loading/offloading Main Office - General administrative office Fire Control Building - At the entry gate of Yard 4 and 5
Terminal Yard Area
Pollutant Sources • Spills and leaks • Track out • Loading and unloading • Windblown • Roadway traffic
Potential Pollutants Oil and grease, gasoline, diesel, biodiesel, ethanol, renewable diesel and fuel additives, sediment, and dust.
Drainage Area / Outfall The Upper Terminal Area and P-2 Drainage Area discharge to Outfall 001 The P-3 Drainage Areas discharges to Outfall 002

4.4 SITE EVALUATION OF POTENTIAL POLLUTANT SOURCES [EPA 832-R-92-006; 2.2.6], *CONT.*

4.4 Site Evaluation of Potential Pollutant Sources [EPA832-R-92-006;2.2.6], Continued
Terminal Yard Area, Continued
Industrial activities that occur in the terminal yard areas include transfer of petroleum products by pipeline, truck, rail, and barge to and from the aboveground storage tanks; vehicular traffic; transporting liquids by truck and forklift; temporary storage of hazardous and non-hazardous waste; operation of the vapor recovery unit; and a variety of maintenance activities.
Non-Stormwater Discharges (NSWDs)
Non-stormwater discharges (NSWDs) consist of discharges that do not originate from precipitation events. The General Permit provides allowances for specified NSWDs as long as they do not cause erosion, do not carry other pollutants, are not prohibited by the City of Portland (POTW), and are visually observed and reported in accordance with the Monitoring Implementation Plan (IMP). Examples of authorized NSWDs may include: fire prevention or response system flushing, atmospheric condensate from air conditioning, refrigeration, or compressor systems, irrigation drainage provided all pesticides and herbicides have been applied in accordance with the manufacturer's label, wash water generated during washing the exterior of vehicles, pavement, or buildings that does not use hot water or detergents or other cleaning products (spills or leaked material mush be cleaned prior to washing), and uncontaminated natural springs, groundwater and foundation and footage drainage.
Non-stormwater discharges into storm drainage systems or waterways are prohibited unless they are authorized in the General Permit (Appendix B), identified in the SWPCP, or authorized under a separate NPDES General Permit.
NSWDs that are authorized at this facility include the following: • Fire hydrant flush water • Fire pump(s) testing • Portable water • Air conditioning / compressor condensate • Refrigerator condensate • Landscape irrigation drainage • Vehicle wash water (Use of hot water or detergents or detergents is not allowed; restricted to eight vehicles per week) • Pavement wash water (Use of hot water or detergents is not allowed) • Routine external building wash down (Use of hot water or detergents is not allowed) • Natural spring (French drain)
The following activities at this facility have the potential to result in unauthorized NSWDs: • Product storage • Water from hydrostatic testing will be stored and remove from the facility to POTW under separate permit or certified waste handler in accordance all State and Federal applicable requirements.
Outfall 001 has a small but continuous discharge since there must always be water flowing in the fire control system. The fire system discharges into a strip drain upgradient of the Truck Loading Rack. The strip drain drains to the P-2 oil/water separator. The P-2 oil/water separator consists of 4 compartments to capture and retain oil and sheens. The fourth and final compartment having a turned-down 90-degree pipe connection that further prevents contaminant discharge at NPDES Outfall 001. If there is an unauthorized release anywhere at the terminal, a second valve between the P-2 oil/water separator and the NPDES Outfall 001 is manually closed to prevent a release to the river.

4.5 STATE-SPECIFIC REQUIREMENTS

The following table identifies State-specific requirements applicable to this facility, if any, and provides additional facility and plan information regarding these requirements.

4.5 State-Specific Requirements	
State Specific Requirements	
The following table identifies State-specific requirements applicable to this facility, if any, and provides additional facility and plan information regarding these requirements.	
STATE SPECIFIC REQUIREMENTS	
The General Permit requires terminal sampling for parameters and frequency as shown below	
Parameters	**Frequency and Monitoring**
Statewide Benchmarks: 1) pH – Between 5.5 and 9.0 2) Copper (Cu) – 0.015 mg/L 3) Lead (Pb) – 0.24 mg/L 4) Zinc (Zn) – 0.24 mg/L 5) Total Suspended Solids (TSS) – 30 mg/L	Four times per year • Two samples between July 1 to December 31; • Two samples between January 1 to June 30; Samples must be collected at a minimum of 14 days apart.)
Impairment Pollutants: 1) Total Iron – 10 mg/L	Four times per year • Two samples between July 1 to December 31; • Two samples between January 1 to June 30; Samples must be collected at a minimum of 14 days apart.)

4.5 STATE-SPECIFIC REQUIREMENTS, CONTINUED

4.5 State-Specific Requirements, Continued
Sampling Procedures
Grab Sampling • For each discharge point monitored, collect a grab or composite sample of stormwater discharges. Discharges from discharge points with shallow overland/sheet flows may need to be concentrated to obtain a sample. • Composite samples may be used as an alternative to grab sampling, except when monitoring for pH, bacteria or oil and grease. Composited samples must be collected from the same storm event. The permit registrant may not switch between grab sampling to composite sampling during a full reporting year without prior approval from DEQ or agent. • The permit registrant must perform all monitoring using proper sampling techniques in accordance Schedule F, Section C3 of the General Permit.
Representative Sample • Samples must be representative of the discharge. • Monitoring points must be identified in the SWPCP. • Stormwater discharges regulated by this permit include stormwater run-on that commingles with stormwater discharges associated with industrial activity. • If discharges authorized by this permit commingle with discharges authorized under a separate NPDES permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable. When combined flows are unavoidable, sampling must include all permitted parameters. • Authorized non-stormwater discharges under Condition I.6 of this permit must only be sampled when commingled with stormwater discharges associated with industrial activity. • Stormwater flows may combine into a common on-site treatment facility; discharges in excess of the design storm capacity must be sampled if the minimum monitoring frequency has not been achieved. • The permit registrant shall, to the extent practicable, sample stormwater associated with industrial activity as it flows off-site before it combines with stormwater, wastewater or other waste permitted streams, or from areas outside the facility, or mixes with any surface water.
Multiple Discharges - Each discharge point must be monitored unless: • Discharge point serves an area without exposure of stormwater to industrial activities. • Discharge point has effluent that is substantially similar to the effluent(s) of a monitored discharge point and the same BMPs are implemented and maintained at the substantially similar discharge points or drainage areas that lead to the discharge points. Substantially similar effluent(s) are discharges from drainage areas serving comparable activities where the discharges are expected to be similar in composition. The determination of substantial similarity of effluent(s) must be based on past monitoring data or an analysis supporting that the discharge points are substantially similar. The supporting data or analysis must be included in the SWPCP. This provision does not apply to discharge point(s) subject to a numeric effluent limit. • Discharge points from approved mass reduction measures that reduced the mass of pollutants at or above DEQ-approved design storm capacity. For mass reduction measures installed during previous permit cycles, the permit registrant must comply with Schedule A.6.
Timing - The discharge must be monitored during the first 12 hours of the discharge event, which is a storm event or snowmelt resulting in an actual discharge from a site. If it is not practicable to collect the sample within this period, collect the sample as soon as practicable and provide documentation with the Discharge Monitoring Report why it was not practicable to take samples within the first 12-hour period. The permit registrant is not required to sample outside of regular business hours of operation or during unsafe conditions.
Sampling for pH - pH sampling must be done by either measuring the pH directly in the flow, or analyzing the sample within 15 minutes of sample collection. • The permit registrant must perform pH monitoring with a properly calibrated pH meter. • The permit registrant must follow pH meter manufacturers' specifications and keep meter in good working order. • pH paper may not be used to comply with the monitoring requirements established in this permit.

Monitoring Frequency - The permit registrant must monitor stormwater discharge according to the frequency described in Table 6, unless DEQ or agent grant a monitoring waiver or approve a monitoring variance.

- Qualifying stormwater samples must be collected at least 14-days apart.
- The permit registrant may collect more samples than the minimum frequency described below, but must report this additional data in the Discharge Monitoring Report. All qualifying samples must be included to establish a monitoring waiver in Schedule B.9 or to conduct the geometric mean evaluation in Schedule A.12 of this permit, except from approved mass reduction measures that reduced the mass of pollutants at or above DEQ-approved design storm capacity. For mass reduction measures installed during previous permit cycles, the permit registrant must comply with Schedule A.6.

Exceedance of Numeric Effluent Limit – The permit registrant must conduct follow-up monitoring of any pollutant that exceeds the numeric effluent limit(s) no later than 30 calendar days (or during the next storm event should none occur within 30 calendar days) of receiving the monitoring results. If the follow-up monitoring exceeds the numeric effluent limit, the permit registrant must monitor the discharge four times per year until compliance with the numeric effluent limit is achieved. Once monitoring achieves the effluent limit concentration, semi-annual frequency may resume.

Reporting Requirements

Reporting Monitoring Data

a. The permit registrant must submit all monitoring results required in this permit web-based electronically, when directed by DEQ or agent. Paper submittal must be on DEQ-approved Discharge Monitoring Report (DMR) forms.
   i. DMRs are due quarterly as specified in Table 7, as required in Schedule B.14 for samples taken during the preceding calendar quarter.
   ii. Reports must include laboratory results from the testing laboratory, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed.
   iii. The permit registrant must submit pH field notes and chain-of-custody.
   iv. Report non-detections as directed by DEQ. In calculating the geometric mean, use one-half of the detection level for non-detections.
   v. Report all sample results from monitoring points.
   vi. The permit registrant must sign and certify submittals of Discharge Monitoring Reports, any additional reports, and other information in accordance with the requirements of Section D8 within Schedule F of this permit.
b. The permit registrant must report Tier II geometric mean benchmark evaluation on the DMR due on August 15 after each full reporting year.
c. Electronic Submission
   i. When directed by DEQ, the permit registrant must submit sampling results and lab and field reports and other information required by Schedule B using DEQ's web-based electronic system.
   ii. A permit registrant may apply for a waiver from web-based electronic reporting. The request must be submitted on a DEQ-approved form and a fee may be assessed.
   iii. Permit registrants in agents' jurisdictions will continue to submit DEQ-approved DMR forms in paper format until notified by DEQ and agent of phased electronic submission requirements.

Discharge Monitoring Reports Submission:
The permit registrant must submit all data by required Discharge Monitoring Report due dates. Failure to submit a DMR is a violation, even if there was no discharge during a quarter.

DMR Quarterly Report Submittal Deadlines:

Q1 - July to September - November 15

Q2 - October to December - February 15*

Q3 - January to March - May 15

Q4 - April to June - August 15*

*Variance request must be submitted semi-annually, as applicable.

If there was insufficient rainfall to collect samples, Shore Terminals is required to provide notification in the appropriate report. The monitoring reports should also include the minimum detection levels and analytical methods for the parameters analyzed.

Monitoring Data Reporting, Continued

Non-detections must be reported as “ND” with the detection limit in parentheses. In calculating the geometric mean for the benchmark compliance evaluation (see Benchmark Compliance Evaluation below for additional information on Benchmark Compliance Evaluations) one half of the detection limits are to be used for results that have a “ND” level.

For the quarter where no stormwater sample is collected, submit to DEQ or agent (City of Portland) a DMR identifying that during the reporting period, the facility has not collected any sample. DMR must be submitted within 45 days following the last day of the quarter.

Monitoring Waiver for Benchmarks and Impairment Pollutant Monitoring

Monitoring waivers obtained during the previous permits do not carryover, the Portland Terminal will have to “re-qualify” for a monitoring waiver in its grab sample requirements.

If the geometric mean of five (5) consecutive sample events is below the statewide benchmarks specified in **FIGURE 6.2.2**, the permit registrant may request a monitoring waiver in accordance with Permit Schedule B.9. if approved, the current registrant, is not required to monitor for these pollutant(s) until the final water year of the permit term (July 1, 2025 – June 30, 2026).

Request for sampling waiver can only be submitted during Q2 (October to December) and Q4 (April to June) DMR submittal period.

The monitoring waiver for grab samples can be revoked. If the DEQ determines that improper or incorrect sampling results or methods were used, site changes or conditions are expected to impact stormwater discharge characteristics and/or the DEQ or the Portland terminal conducts additional samples that exceeded the benchmarks, then these grab sample requirements will be reinstated until sample results from 5 consecutive sample events can be shown to be below the permit limits.

All monitoring waivers will expire prior to the final year of the permit and sampling must be reinstated after June 30, 2025.

Monitoring Variance

The Portland Terminal may request a sampling variance for missed samples if one of the following criteria is met:

1. State or federal authorities declared the year a drought year.
2. Demonstrate that the rainfall in the area where the permit registrant’s facility is located was 20% or more below the 3-year average rainfall for that area.
3. Photo documentation, rain gauge data, detention basin storage volumes, storm infiltration rate or retention capacity.

For each missed sample, report in the Discharge Monitoring Report from that no discharge occurred and include supporting data and analysis demonstrating why the monitoring did not occur.

4.5 STATE-SPECIFIC REQUIREMENTS, CONTINUED

4.5 State-Specific Requirements, Continued

Non-Compliance Reporting

If there are instances of non-compliance that do not endanger health or the environment, a report shall be submitted with the monitoring report describing the noncompliance and its cause; the period of noncompliance, including exact dates and times; the estimated time noncompliance is expected to continue if it has not been corrected; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Benchmark Exceedance Reporting -- Tier I Corrective Action Response Based on Exceedances of Benchmarks and Visual Observations that Show Signs of Pollution

a. If any of the triggering events occur, the permit registrant must complete the Tier 1 corrective actions below.
b. Triggering events include:
   i. If qualifying sample results exceed any applicable statewide benchmark(s) in Table 4 of this General Permit or any sector-specific benchmarks in Schedule E; or
   ii. Visual observations that show signs of pollution in the discharge as specified in Schedule B.12.a.vii.
c. Tier 1 corrective action and reporting must include:
   i. Investigate the cause of the elevated pollutant levels, including conducting, commencing or planning for any needed pollutant source tracing activities. Ensure that known or discovered significant materials from previous operations are controlled, removed or otherwise not exposed.
   ii. Review the SWPCP to ensure it is implemented; evaluate selection, design, installation and implementation of control measures for compliance with this General Permit and manufacturers' specifications. Evaluate whether any previous pollutant source isolation actions are complete and whether additional modifications are necessary.
   iii. Evaluate any treatment measures, infiltration devices and mass reduction measures, including if they were properly installed, maintained and implemented and whether maintenance, corrections, or modifications are necessary.
   iv. Tier 1 corrective action response(s) must be assessed and implemented at all substantially similar discharge points.
   v. Tier 1 report - Summarize the following information in a Tier 1 report:
      (1) The results of the site the assessment in Schedule A.11.c.i-iii.
      (2) Corrective actions taken or planned to be taken, including date corrective action completed or expected to be completed. Where the permit registrant determines that corrective action is not necessary, provide the basis for this determination.
      (3) Document whether SWPCP revisions are necessary.
   vi. Tier 1 corrective action response may include documentation and implementation of industrial-specific checklists as provided by DEQ (see DEQ's industrial stormwater permits webpage for resources regarding source and operations controls, including the industrial-specific checklists), in addition to a Tier 1 report.
   vii. The permit registrant must keep Tier 1 reports and industrial-specific checklists on site, and copies provided to DEQ or agent upon request.
d. Deadlines:
   i. Implement Tier 1 corrective actions before the next storm event, if possible, or no later than 30 calendar days after receiving the monitoring results or completing the monthly visual inspection, whichever comes first. If the permit registrant fails to complete the corrective action within this timeframe, an explanation must be documented in the Tier 1 Report, and corrective actions must be completed as soon as practicable.
   ii. Submit revised SWPCP in accordance with Schedule A.9., as needed.

e. Exemptions:
   i. Permit registrants subject to Tier II corrective action response, prior to completion of Tier II, a Tier 1 corrective action response is not required when monitoring results exceed the benchmark for the same pollutant and monitoring point.
   ii. If stormwater monitoring results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity exceed benchmarks, the permit registrant is not required to complete a Tier 1 corrective action.

Benchmark Exceedance Reporting -- Tier II Corrective Action Response based on Geometric Mean Benchmark Evaluation

a. Permit registrants subject to a Tier II installation deadline of June 30, 2021, or later in response to a Tier II corrective action response triggered under the previous permit, are not required to conduct Tier II evaluation for the same pollutant(s) and monitoring point(s) during this permit cycle.
b. Once a monitoring point triggers Tier II corrective action response for a pollutant, in subsequent full reporting years a Tier II geometric mean evaluation and Tier II corrective action response are not required more for the same pollutant(s) and monitoring point(s).
c. The permit registrant must use all qualifying samples collected during the full reporting year to calculate the geometric mean, except sample results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity.
d. If any of the triggering events occur, the permit registrant must complete the Tier II corrective actions below.
e. Triggering events include:
    i. The geometric mean of qualifying sample results collected at any monitoring point exceeds any applicable statewide benchmark(s) in Table 4, during each full reporting year (see Schedule D.3 of the General Permit, Definitions).
    ii. For the pH benchmark, if 50 percent or more of qualifying sample results collected at any monitoring point during two full reporting years, are outside of the pH benchmark range.
f. Corrective action and Reporting must include:
    i. The permit registrant must submit a SWPCP appendix including: Tier II report, a Tier II mass reduction waiver request, or a Tier II background waiver request as described below.
    ii. Properly apply and size approved Tier II corrective action responses and mass reduction measures to all substantially similar discharge points.
    iii. Tier II Report
        (1) The Tier II report must include a proposal for active or passive treatment. This may include a combination of source removal, control and treatment measures, with the goal of achieving the benchmark(s) in this General Permit. The report must include the rationale for the selection of the control and treatment measures, the projected reduction of pollutant concentration(s) and the schedule for implementing these measures.
        (2) An Oregon registered professional engineer (PE) must design and stamp the portion of the SWPCP that addresses these control measures.
g. At discharge points where Tier II has been implemented:
    i. The permit registrant must take Tier 1 corrective actions in accordance with Schedule A.11.
    ii. The permit registrant must sample substantially similar discharge points for the parameters that triggered Tier II. For exceptionally large facilities where sampling at all substantially similar discharge points are infeasible, DEQ or agent may approve a modification.
    iii. The permit registrant may request a monitoring waiver if the geometric mean of five consecutive qualifying sample results collected at any monitoring point is equal to or below the benchmark.
h. Exemptions:
    i. Tier II Mass Reduction Waiver
        (1) The permit registrant may request an exemption from the requirements in Schedule A.12.f.iii above by submitting a mass reduction waiver request if the permit registrant implements or has implemented volume reduction measures, such as low impact development practices, that will or has resulted in reductions of the mass load of pollutants in the discharge below the mass equivalent of the applicable statewide benchmark(s) in Table 4 of this General Permit.
        (2) The mass reduction waiver request and the revised SWPCP must include data and analysis to support the rationale for the mass load reduction selection. The mass reduction waiver request must include a description of the measure(s), and a mass load analysis, and expected implementation date(s).
        (3) An Oregon Professional Engineer (PE) or Oregon certified engineering geologist (CEG) must design and stamp the portion of the SWPCP that addresses the mass reduction measures.
    ii. Tier II Background Waiver
        (1) The permit registrant may request a background waiver exemption from the requirements in Schedule A.12.f.iii and A.12.h.i above if the permit registrant can sufficiently demonstrate the benchmark exceedance(s) is attributed solely to the presence of the pollutant(s) in natural background and is not associated with industrial activities at the site (see Schedule D.3, Definitions).
        (2) The background waiver request must include the supporting rationale and any data collected by the facility or others (including peer-reviewed literature studies) which is used to demonstrate that the exceedances are due solely to background conditions that describe and quantify the levels of background pollutants in the discharge.

i. Deadlines:
   i. The permit registrant must submit a proposed Tier 2 corrective action response to DEQ or agent no later than December 31 (six months after the end of the full reporting year that triggered Tier 2) unless DEQ or agent approved a later date.
   ii. DEQ or agent will notify the permit registrant within 60 calendar days of receipt if Tier 2 corrective action is approved or denied.
   iii. Tier 2 corrective action(s) or mass reduction measures(s) must be installed and implemented no later than September 30 (a year and nine months after the Tier 2 proposal corrective action response submittal deadline) unless DEQ or agent approved a later date. If the permit registrant changes the specifics of the corrective actions before implementation, revisions must be submitted and approved by DEQ or agent before implementation. Corrective action revisions do not change the Tier 2 implementation deadline.
   iv. No later than 30 calendar days from implementing Tier 2 corrective actions or mass reduction measures, the permit registrant must inform DEQ or agent of the date of completion. This notification requirement also applies to facilities with an implementation deadline established in the previous permit.
   v. No later than 30 calendar days from implementing all Tier 2 corrective actions or mass reduction measures, the permit registrant must submit all new and modified control measures and any associated changes to monitoring or discharge points within a SWPCP revision.

4.5 STATE-SPECIFIC REQUIREMENTS, CONTINUED

4.5 State-Specific Requirements, Continued
Immediate Regulatory Reporting
In case of non-compliance that endangers health or the environment, the facility is to report the incident to DEQ or City of Portland in a timely manner of becoming aware of the circumstances.
During normal business hours, the DEQ's Regional Office is to be called at (503) 229-5696. Outside of normal business hours, the Oregon Emergency Response System (OERS) is to be called at (800) 452-0311.
A follow-up written submission to DEQ is to be submitted within five (5) days of becoming aware of the circumstances. The City of Portland must also be notified of noncompliance by calling their 24-hour notification line at (503) 823-7180.
Portland Terminal frequently reviews the observation and analytical data to evaluate the effectiveness of the existing BMPs and/or operational changes that maybe affecting the quality of the facility's stormwater discharge. A formal assessment is done at the end of each stormwater year in conjunction with the annual comprehensive site compliance evaluation and the preparation of the annual report.

SECTION 5

Last Revised: August 31, 2021

NOTIFICATION, REPORTING, AND RESPONSE PROCEDURES

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5.1 Notification and Reporting [EPA 832-R-92-006; 2.3]

Figure 5.1-1 – Contacts Directory

5.2 Response Actions [EPA 832-R-92-006; 2.3]

Figure 5.2-1 - Spill Response Actions

Figure 5.2-2 - Spill Mitigation Procedures [EPA 832-R-92-006; 2.3]

5.3 Facility Emergency Equipment [EPA 832-R-92-006; 2.3]

5.4 Spill / Release Forms

Figure 5.4-1 - Release Notification Data Sheet

5.1 NOTIFICATION AND REPORTING [EPA 832-R-92-006; 2.3]

FIGURE 5.1-1 - CONTACTS DIRECTORY

CONTACT	CONTACT NUMBERS	TIME/PERSON CONTACTED
STORMWATER POLLUTIONPREVENTION TEAM		
Team Leader		
Ryan Groesbeck Terminal Manager - Portland	503-286-6732 Ext. 7118 (Office) 360-949-0913* (Mobile)	
Team Members		
Shore Terminals LLC.		
Ryan Groesbeck Terminal Manager - Portland	503-286-6732 Ext. 7118 (Office) 360-949-0913* (Mobile)	
Kyle Bell Operations Supervisor - Portland	971-275-2420* (Mobile)	
Aaron Flett Area Manager - PNW	503-286-6732 (Office) 360-567-8871* (Mobile)	
Chris Vratil General Manager – Pipeline & Terminal Operations	361 906 7454* (Mobile)	
Jim Roberts Director of Health, Safety and Environmental	530-204-7079* (Mobile)	
Buddy Stubblefield HSE Manager -- West Region	916-509-3238 (Office) 916-753-4756* (Mobile)	
Portland Terminal Operators	503-969-4555* (Office)	
Environmental Consultant		
Ian Maguire (GeoEngineers, Inc.)	503-906-6577 (Office) 503-949-1084 (Mobile)	
Response Contractor		
Telluric Enterprises (Mark Vealey)	503-505-1995 (Office) 503-717-2726 (Mobile)	
Cowlitz Clean Sweep (Jerry Wade)	503-247-9466 (Office) 503-444-1781 (Mobile)	
Spill Reporting (If directed by Environmental Representative/Team Leader)		
National Response Center (NRC)	800-424-8802	
Oregon Emergency Response System (OERS)	800-452-0311	
Oregon Department of Environmental Quality (DEQ)	800-452-4011	

5.2 RESPONSE ACTIONS [EPA 832-R-92-006; 2.3]

FIGURE 5.2-1 - SPILL RESPONSE ACTIONS

Figure 5.2-1 - Spill Response Actions

Spill Response

The facility maintains spill response kits at the following locations:

- Near the Hazardous Waste Accumulation Area in Yard 2
- Near the eastern side of Yard 4
- In the western corner of Yard 2
- In the Operations Office in the Upper Terminal Drainage Area

If a spill is discovered, the employee is to follow the detailed procedures outlined in the Integrated Contingency Plan (ICP) and Spill Prevention Countermeasures and Control (SPCC) Plan that is available in the terminal office. Each employee has emergency response training on an annual basis.

An emergency response contractor can be contacted to respond to large spills.

There are a number of items that are kept on site to respond to smaller surface spills and/or sheens: spill pads, absorbent, boom, pumps, hoses, empty drums, hoses and the emergency response contact list (refer to the ICP and SPCC Plan).

In the event of a spill, employees are instructed to immediately notify the appropriate supervisor or manager and perform the following activities:

- Identify the material and secure the area.
- Obtain personal protective equipment (PPE) and maintain safety of employees.
- Contain spilled or leaked material and cover floor and storm drains by using isolation valves, with portable dikes, absorbent socks, or other absorbent material.
- Remove soiled absorbent, clean up material, and package for disposal in accordance with environmental regulations. Clean up the area to the approval of the Terminal Manager.
- Record the date, time, location, cause, quantity released, and quantity cleaned up in an incident report. Replace or clean any spill response equipment so that it will be ready for the next event.
- If a spill is discovered, the employee is to follow the detailed procedures outlined in the ICP.
- Secondary containment is used at the Portland Terminal to prevent pollutants from entering the stormwater conveyance system. Chemical drums, fuel tanks, and hazardous waste containers should be stored inside, within berms, or other secondary containment devices to limit leaks and spills from entering the stormwater runoff system. The following is a list of potential pollutants that are prevented or reduced by the secondary containment: gasoline, diesel, ethanol, biodiesel, fuel additives, cutter stock, and fuel oil.
- The hazardous waste storage area is located in the inactive loading rack covered area that has a graded concrete containment pad and berm that have the capacity to capture well more than a drum of liquid material (the largest container stored within this area).
- The loading rack area has secondary containment and drains that lead to a 15,000-gallon storage tank. Water from the storage tank can be manually pumped to P-2 oil/water separator or shipped off site for recycling. Wash down water or spill is shipped offsite according to State and Federal regulation for disposal or recycles.
- The tank farm secondary containment is capable of containing the largest tank plus freeboard to hold the volume of stormwater generated by a 24-hour, 25-year storm event. The secondary containment capacity is periodically evaluated as to whether the area is sufficient to retain the product per design criteria. Valves controlling the containment discharge to treatment system are normally in the closed position. The valves are opened manually after the area is visually inspected. The position of these valves is labeled "Open" or "Closed" to enhance prevention of unauthorized discharges.
- A bermed tanker truck loading/offloading area is located outside and adjacent to the northwest corner of the Yard 1 containment wall. Any leaks or drips from unloading activities are contained inside the containment area and cleaned upon completion of unloading activities.

- A covered and bermed inactive Truck Loading Rack, located between Yards 2 and 3 is no longer in service, and is used to store hazardous waste. Any windblown stormwater collected in the containment area is visually inspected and manually discharged into Yard 2, which drains to the P2 API oil/water separator connected to Outfall 001. The Yard 4 oil/water separator discharges to the POTW.
- The P-2 drainage area has an API oil/water separator upstream of its outfall. The separator is used to remove oil and particulates from the terminal stormwater before discharging the water to the Willamette River via Outfall 001. The drainage basin in the Upper Terminal Area drains to the P-2 API oil/water separator for treatment prior to discharge. Special construction or maintenance projects may require additional BMPs to prevent discharges of unauthorized stormwater to the stormwater conveyance system and to prevent contamination of stormwater runoff.
- BMPs for each special project are considered on a case-by-case basis and the Terminal Manager coordinates all such efforts with terminal employees and contractors. BMPs are documented and appropriate observations are made.
- Water impounded in the tank farms are inspected for sheen by facility operators prior to manual discharge to the oil/water separators.
- A total of two stormwater treatment systems (the P-2 oil/water separator and the Contech StormFilter®) serve the P-2 and P-3 drainage basins, which discharge to Outfalls 001 and 002, respectively. These systems are inspected and maintained on a regular basis. If a visible sheen is present in the final chamber, the facility will schedule the removal of the waste. Product collected in the separator is skimmed and pumped into a slop tank located adjacent to the separator.
- Oil absorbent pads/booms are placed in the final chamber of the separator to absorb any oil that gets by the rest of the separator. Sludge that accumulates in the bottom of the separator is removed annually and is handled by following company waste management policies and procedures. All storm drain valves affecting containment areas are equipped with signage to enhance prevention of unauthorized discharges.
- Floating oil-absorbent booms, spill pads and skimmers, or other devices are to be used as needed to minimize the potential for oil and grease to contact stormwater runoff. Additionally, oil-absorbent pads or booms will be used at the catch basins collecting the contaminated stormwater on an as-needed or as-determined basis by terminal personnel while the source is being investigated.
- This facility has an approved ICP to respond to major spill incident. Spill response equipment is available onsite and through an approved Oil Spill Removal Organization (OSRO).
- Any railcar unloading is conducted over a section of the track equipped with drip pans. An additional containment pan is placed beneath hose and tank car connections, which rest on drip pans during oil transfer operations.
- Spill response for the Portland Terminal includes reference plans, readily available response resources and equipment, efficient communication systems, and employee spill response education. The Portland Terminal spill response plans include the ICP and SPCC Plan and the City of Portland fire Department Hazardous Materials Inventory and Response Plan (SARA II report). These plans include details and specifies about Portland Terminal's emergency spill response.
- Facility operations and maintenance personnel will develop and implement additional site controls/BMPs as appropriate and necessary to reduce or prevent pollutants associated with their specific area of responsibility or with a specific activity.

FIGURE 5.2-1 - SPILL RESPONSE ACTIONS, CONTINUED

Figure 5.2-1 - Spill Response Actions, Continued
, Continued Spill Response
• Terminal operators are required to inspect the terminal yard, tank farms, loading rack, maintenance areas, and other process areas on a daily basis. If a spill is discovered, the following information outlines the basic steps to respond to a spill at the Portland Terminal. o Frequent inspections are made of the water surface throughout the transfer process. The terminal and ship/barge personnel follow the procedures identified in the Coast Guard-required Dock Operations Manual. SPCC training is conducted annually for all Portland Terminal employees. o SPCC training covers the following topics and activities; terminal personnel are instructed in the proper operation and maintenance of the terminal, discharge equipment, applicable laws, rules, and regulations, types of potential pollutants, products, amounts, and tank contents. A spill that flows into a municipal storm drain is reportable in accordance with Federal, state, and local regulations, refer to instructions on reporting material releases that pose a significant potential hazard to human health and safety, property, and / or the environment.

FIGURE 5.2-2 - SPILL MITIGATION PROCEDURES [EPA 832-R-92-006; 2.3]

TYPE	MITIGATION PROCEDURE
Failure of Transfer Equipment	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations and close block valves. 3. Drain product into containment areas if possible. 4. Eliminate sources of ignition.
Tank Overfill/Failure	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down or divert source of incoming flow to tank. 3. Transfer fluid to another tank with adequate storage capacity (if possible). 4. Shut down sources of ignition. 5. Ensure that dike discharge valves are closed. 6. Monitor diked containment area for leaks and potential capacity limitations. 7. Begin transferring spilled product to another tank as soon as possible.
Piping Rupture/Leak (under pressure and no pressure)	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down pumps. Close the closest block valves on each side of the rupture. 3. Drain the line back into contained areas (if possible). 4. Shut down sources of ignition. 5. If piping is leaking and under pressure, relieve pressure by draining into a containment area or back to a tank (if possible). Then repair line according to established procedures.
Fire/Explosion	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at risk of injury. 2. Notify local fire and police departments. 3. Attempt to extinguish fire if it is in incipient (early) stage. 4. Shut down transfer or pumping operation. Attempt to divert or stop flow of product to the hazardous area (if it can be done safely). 5. Eliminate sources of ignition. 6. Control fire before taking steps to contain spill.

5.3 FACILITY EMERGENCY EQUIPMENT [EPA 832-R-92-006; 2.3]

TYPE/MODEL	QUANTITY	CAPABILITY	OPERATIONAL STATUS	LOCATION
ON-SITE EQUIPMENT				
90 Day Accumulation Area Emergency Equipment (Building 8)				
Rubber Mats	5	Spill Response	Operational	Conex Box OCC
Spill Response Equipment				
spill pads or other forms of absorbents	varies	Used to implement the BMP	Operational	Building 5
spill pads, absorbent, boom	varies	Smaller surface spills and/or sheens	Operational	Building 5
pumps, hoses, empty drums	varies	Used to implement the BMP	Operational	Building 5
18" Containment Boom / Skirt Type	3,000 ft.	Spill response	Operational	South Dock Float
18" Containment Boom / Skirt Type	1,500 ft.	Spill response	Operational	South Equipment Shed
18" Containment Boom / Skirt Type	1,000 ft.	Spill response	Operational	Warehouse by North Dock

5.3 FACILITY EMERGENCY EQUIPMENT [EPA 832-R-92-006; 2.3], CONTINUED

TYPE/MODEL	QUANTITY	CAPABILITY	OPERATIONAL STATUS	LOCATION
Pads	10 bags	Spill response	Operational	Warehouse
Absorbent Boom	160 feet	Spill response	Operational	Warehouse
Work Boat - 22 ft Response Boat / Built 2006	1	Spill response	Operational	On-Site at P2 Dock Boat House
Spill Kits	Contents: 50 5x19 absorbent pads 4 4”x12’ socks 8 18” pillows Pair of nitrile gloves 1 emergency handbook 1 pair goggle 5 disposable bags.	Spill response	Operational	Yard 2, Yard 4, Rail Spur, truck rack, P-2 dock, P-3 dock, and pump manifold area
Various Tools				
brooms, squeegees, shovels, brushes and hoses	varies	Used to implement the BMP	Operational	Building 5
Truck leak repair kit	1	Spill/ leak response	Operational	Conex box/ operational control

5.4 SPILL / RELEASE FORMS

FIGURE 5.4-1 - RELEASE NOTIFICATION DATA SHEET

Click to view/print AVO Leak Inspection Form

AVO Leak Inspection

(Audio, Visual, Olfactory)

Facility: NuStar Portland

Inspection Frequency: Once per Shift

You Must List The Type Of Leak (weep, drip or flow)

Any AVO Finding Noted On This Sheet Must Be Accompanied By A Work Order

Operators:			Date:		Shift Hours:		
Operator	Area (REQUIRED)	Leak Y/N	Product	Item Leaking	Leak Type	Severity	Work Order #
	Yard 1						
	Yard 2						
	Yard 3						
	Yard 4						
	Yard 5						
	Truck Lane 1 & Vapor Hoses						
	Truck Lane 2 & Vapor Hoses						
	Truck Lane 3 & Vapor Hoses						
	Truck Lane 4						
	Building #10						
	Building #11						
	Additive Tank 181						
	Rail Spur						
	Load Rack Pumps						
	P2 Kinder Morgan Manifold						
	P2 Olympic Manifold						
	Shop						
	P2 Dock						
	P2 Boat						
	Building #13						
	P3 Manifold						
	P3 Dock						

AVO Leak Inspection

(Audio, Visual, Olfactory)

Facility: NuStar Portland		
Inspection Frequency: Once per Shift		
Original on file at the facility (No copies disseminated) Retain this form for five years		
Leak repairs must be completed within five days or reasons for repair delays must be documented below		
Operator:	Date:	Shift Hours:

Record any Items to be repaired in comments

Operator	Item	Location	Issue	Comments
	Housekeeping			
	Lighting			
	Lids on Garbage and Metal dumpsters are to be closed			

SEPARATOR

Operator	Equipment	Sheen Y/N	Compartment #	Water in Vault	Sheen in River Y/N
	Contact Filters				
	P2 Separator			N/A	

VISIBLE EMISSIONS CHECK

Operator	Equipment	Operating Y/N	Visible Emissions Y/N	Dusting Y/N	Emissions Reported to HSE
	Boiler			N/A	
	VRU				

VRU Vapor/Leak Inspection

Any vapor or liquid leak for the VRU and vapor collection system? Yes No		
Location of repair	Date of repair	Work Order Number

COMMENTS

5.4 SPILL / RELEASE FORMS

FIGURE 5.4-1 - RELEASE NOTIFICATION DATA SHEET

Click to view/print AVO Leak Inspection Form

Preventative Maintenance Inspection
Industry Name: SHORE TERMINALS/NU STAR
Preventative Maintenance Inspection MUST BE completed monthly, DOES NOT need to occur during a discharge event

Date		Time	
Weather Conditions			
Inspector			

		Yes	No	Observations/Notes	If YES: Describe Corrective Actions Needed	Date Corrective Actions Completed
Site Inspection						
Loading/Unloading area	Debris accumulated					
	Signs of spills or leaks					
	Liquids stored outside of bermed area					
	Catch basin cover absent					
Maintenance building	Oil/grease/fuel stains buildup					
	Waste fluids/solvents stored outside					
Material storage	Hazardous substances without secondary containment					
	Hazardous substances without cover					
	Signs of spills or leaks					
Waste storage	Dumpsters uncovered					
	Scrap metals uncovered					
General site conditions	Signs of spills or leaks					
	Signs of significant erosion					
	Signs of debris or sediment accumulation					
	Equipment leaking					
	Cracks or degraded asphalt					
~~Spill kit materials missing?~~						
Stormwater Control Measures						
Catch Basins/Manholes	Filter inserts need replacement					
	Oil/grease scum					
	Sediment buildup					
	Floating debris					
	Damaged grates or elbows					
Valves	Functional					
Oil-Water Separator	Depth of Sediment accumulation					
	Depth of oil/grease layer					
Curbing/berms	Cracked/damaged					
	Accumulated stormwater with sheen or floating solids					
~~Manufactured Facilities~~	~~Sediment or oil accumulation~~					
	Depth of sediment accumulation on filters					
	Filters require replacement					

FIGURE 5.4-1 - RELEASE NOTIFICATION DATA SHEET, CONTINUED

Click to view/print Preventative Maintenance Inspection

SECTION 6
MONITORING PROGRAM / SAMPLING DATA

Last Revised: August 31, 2021

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6.1 Monitoring Program [EPA 832-R-92-006; 2.2.5]

Figure 6.1-1 - Monitoring Program Summary

6.2 Sampling Data [EPA 832-R-92-006; 2.2.5]

Figure 6.2-1 - Sampling Data Summary

Figure 6.2-2 - Stormwater Sampling Parameters

The objectives of the monitoring program are to:

1. Ensure that stormwater discharges are in compliance with discharge prohibitions, effluent limitations, and receiving water limitations specified in the 1200-Z Permit.
2. Ensure stormwater practices to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater discharges are evaluated and revised to meet changing conditions.
3. Aid in the implementation and revision of the SWPCP.
4. Measure the effectiveness of BMPs to prevent or reduce pollutants in stormwater discharges and authorized non-stormwater discharges.

6.1 INSPECTIONS

Inspections are performed to ensure that BMPs are being implemented and to identify conditions that may allow pollutants to be discharged with stormwater. All inspections are recorded on the forms provided and are reviewed by the person responsible for SWPCP implementation. When conditions are identified that require corrective action, the follow-up action is also recorded. The inspections that will be performed are listed in Figure 6.1-1 below.

FIGURE 6.1-1 – STORMWATER INSPECTIONS

Type of Inspection	Description	Frequency
Annual Review	Annually review the SWPCP, operational and treatment BMP performance. As appropriate, the SWPCP is to be revised and the revisions to site controls implemented within a timely manner of the review. As part of the review, the entire facility will be visually inspected to determine the effectiveness of SWPCP implementation. All hazardous material and waste areas, parking and equipment storage areas, loading docks, and other areas containing the pollutant sources identified in Table 2-1 will be inspected. The inspection will include an assessment of whether good house-keeping practices, preventative maintenance activities, spill response, and employee education are being performed. Particular attention is to identify unauthorized non-stormwater discharges. Corrective action will be implemented if deficiencies are identified.	Annually, prior to rainfall season
Stormwater Discharge Visual Observations	Each discharge point is to be visually observed from one storm event per month when stormwater is sufficient to flow off-site and discharge through the collection system. Specific parameters are floating solids (associated with industrial activities) and oil and grease sheen. Visual observations of stored or contained stormwater is to be made at the time of release.	Once per month when discharging
Erosion Control Inspection	Erosion potential of unpaved areas at the facility should be assessed. Repairs and maintenance should be completed and additional erosion controls measures should be implemented prior to the rainy season. Corrective actions should be implemented if deficiencies are identified.	After each significant storm
Facility	Inspect the drainage systems draining to outfall 001 and outfall 002. Document any evidence of pollutants discharging to receiving waters at monitoring locations and the maintenance conducted on stormwater control features	Once per month

Document the inspections as follows, and be prepared to submit reports to DEQ or Agent upon request:

- Date and Time;

- Control measures needing cleaning, replacement, maintenance, reconditioning, or repair;
- Condition of the drainage/conveyance system and need for maintenance; and
- If any parameter is identified in Table 5-3, describe corrective action taken or will be taken to remedy the problem.

6.2 MONITORING PROGRAM [EPA 832-R-92-006; 2.2.5]

The following table provides a summary of the stormwater monitoring program for this facility, per the NPDES General Permit monitoring requirements. Refer to **SECTION 6.2** for a summary of sampling data and parameters used for the stormwater monitoring program. Refer to **APPENDIX B** for copies of General Permits and Permit Issuance Letter.

FIGURE 6.2-1 - STORMWATER SAMPLING REQUIREMENTS

The General Permit requires terminal sampling for parameters and frequency as shown below at all sampling locations	
Parameters	**Frequency and Monitoring**
Statewide Benchmarks: 1) pH – Between 5.5 and 9.0 2) Copper (Cu) – 0.015 mg/L 3) Lead (Pb) – 0.24 mg/L 4) Zinc (Zn) – 0.24 mg/L 5) Total Suspended Solids (TSS) – 30 mg/L	Four times per year • Two samples between July 1 to December 31; • Two samples between January 1 to June 30; Samples must be collected at a minimum of 14 days apart.)
Impairment Pollutants: 1) Total Iron – 10 mg/L	Four times per year • Two samples between July 1 to December 31; • Two samples between January 1 to June 30; Samples must be collected at a minimum of 14 days apart.)

Visual monitoring shall be performed as indicated in Figure 6.1-1 and the Figure 6.1-1 below

FIGURE 6.2-2 - STORMWATER VISUAL MONITORING REQUIREMENTS

LOCATION OR OUTFALL	MONITORING FREQUENCY	MONITORING OR MEASUREMENT METHOD	CERTIFICATE OF COVERAGE
Terminal Office			
Monitoring Point 001 (Outfall 001) and Monitoring Point 002 (Outfall 002)	Monthly (When discharging)	Visual Observations - Inspect for the presence of oil and grease sheen and floating or suspended solids, foam, discoloration during discharges. Inspect oil water separator, catch basins, Contech storm filter system, all BMP's regardless of any discharge occurring. Inspect entrances & exits for off-site tracking.	Daily Terminal Inspection Record

6.3 MONITORING LOCATIONS

FIGURE 6.3-1- STORMWATER MONITORING POINTS

MONITORING LOCATION	OUTFALL	ASSOCIATED DRAINAGE BASIN	LATITUDE	LONGITUDE
001	Outfall 001 (WR-78)	Portions of the Upper Terminal Drainage Basin and the P-2 Drainage Basin	45.593022	-122.777375
002	Outfall 002 (WR-152)	P-3 Drainage Basin	45.588942	-122.772719

Stormwater samples are not collected from OPLC Parking Drainage Area and the Terminal Driveway Drainage Area as stormwater from these areas is represent small drainage areas outside of the operational areas of the terminal (e.g., loading and offloading of trucks, railcar transfers, piping manifolds, petroleum storage, etc.). Industrial activities that occur in these two drainage areas is limited to vehicle and equipment traffic and parking where industrial activities at the terminal. Stormwater from OPLC Parking Drainage Area and the Terminal Driveway Drainage Area is substantially similar to the portions of the Upper Terminal Drainage Area upgradient of the Truck Loading Rack.

6.4 SAMPLING DATA [EPA 832-R-92-006; 2.2.5]

A summary of existing stormwater discharge sampling results describing pollutants, suspected sources, quality of discharges and problems that have occurred during the previous 3 years is contained in **FIGURE 6.2-1**. Parameters used for stormwater sampling are identified in **FIGURE 6.2-2.**

FIGURE 6.2-1 - SAMPLING DATA SUMMARY

LOCATION OR OUTFALL	POLLUTANTS	SUSPECTED SOURCES	DISCHARGE QUALITY
Stormwater Sampling Data for this facility is maintained, and available for review, at Oregon Department of Environmental Quality and City of Portland.			
Monitoring Point 001 (Outfall 001) and Monitoring Point 002 (Outfall 002)	See City of Portland May 6, 2021 letter "2021-2026 NPDES Permit Number 1200-Z, Monitoring Requirements"		

FIGURE 6.2-2 - STORMWATER SAMPLING PARAMETERS

PARAMETER	FREQUENCY
pH; **Permit Benchmarks: >5.5<9.0**; Sample Type: Grab; Analytical Method: Field measurement with a calibrate pH meter (measurements are required within 15-minutes of sample collection).	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)
Total Copper; **Permit Benchmarks: 0.015 mg/L**; Sample Type: Grab or Composite; Analytical Method: Method 6010B; Preservation / Sampling Requirements: 500 ml polyethylene bottle preserved with HNO3.	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)
Total Lead; **Permit Benchmarks: 0.24 mg/L**; Sample Type: Grab or Composite; Analytical Method: Method 6010B; Preservation / Sampling Requirements: 500 ml polyethylene bottle preserved with HNO3.	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)
Total Zinc; **Permit Benchmarks: 0.24 mg/L**; Sample Type: Grab or Composite; Analytical Method: Method 6010B; Preservation / Sampling Requirements: 500 ml polyethylene bottle preserved with HNO3.	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)
Total Suspended Solids; **Permit Benchmarks: 30 mg/L**; Sample Type: Grab or Composite; Analytical Method: Method 160.2; Preservation / Sampling Requirements: 500 ml polyethylene bottle unpreserved.	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)
Total Iron (Total); **Permit Impairment Concentration: 10 mg/L**; Sample Type: Grab or Composite; analytical Method: EPA 200.7; Preservation / Sampling Requirements: 500 ml Polyethylene bottle with HNO3 preservative	Four/year – Twice between July 1 and December 31, Twice between January 1 and June 30. (Until the Terminal Qualifies for Monitoring Reduction)

SECTION 7

Last Revised: August 31, 2021

PREVENTIVE MEASURES, SOURCE CONTROLS, AND BEST MANAGEMENT PRACTICES

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7.1 Non-Structural Controls [EPA 832-R-92-006; 2.3]

Figure 7.1-1 - Non-Structural Controls and Best Management Practices

7.2 Structural Controls [EPA 832-R-92-006; 2.3]

Figure 7.2-1 - Structural Controls and Best Management Practices

7.3 Employee Training [EPA 832-R-92-006; 2.4.2]

Figure 7.3-1 - Employee Training Program

7.1 NON-STRUCTURAL CONTROLS [EPA 832-R-92-006; 2.3]

Non-structural controls (or Operational Source Controls) are non-physical means of reducing the potential for contact between stormwater and significant materials at the source. Refer to **FIGURE 7.1-1** for non-structural controls and best management practices implemented at this facility.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES

Figure 7.1-1 - Non-Structural Controls and Best Management Practices
Good Housekeeping
The facility routinely implements the following good housekeeping procedures to minimize pollutants in stormwater discharges from the facility.
Portland Terminal has established standard operating procedures for the operations and maintenance personnel that address good housekeeping as part of the daily Audio, Visual, Olfactory Leak (AVO) inspection (see Appendix A). These procedures reduce and/or prevent pollutants such as gasoline, diesel, sediment, debris, and oil and grease from moving offsite by vehicle traffic, sheet flow, or wind.
The terminal paved areas are swept semi-annually. Additionally, the operators utilize absorbents to clean oil and grease stains, small spills, or leaks from the terminal paved surfaces. Hydrophobic booms and/or catch basin cover mats will be utilized to prevent spilled material or water from entering the storm drain system.
The terminal stormwater catch basins must be inspected monthly. Catch basins will be cleaned to remove sediment and/or debris when the depth of sediment and/or debris reaches 60% of the sump depth. Additionally, the debris surface will be kept at least 6 inches below the catch basin outlet pipe. All catch basins, oil/water separators, and the Contech StormFilter® stormwater treatment device are cleaned a minimum of once a year (see Appendix A). This will not only minimize the total suspended and accumulative solids, but it also improves the facility's drainage. These tasks are performed by the terminal operators or an outside contractor.
The tank farms are checked for solids, oil, and grease daily during the work week by the terminal operators. The operators perform a visual observation for staining, leaks or spills in and around the tank farm paying attention to pumps, flanges, gaskets, Varec gauges, stormwater catch basins, and tanks. Any sheen, drip pans, spills pads, and oily residues are cleaned when observed.
The terminal operators remove solids such as trash and debris as conditions warrant. Tank farms stormwater catch basins are visually inspected monthly. Catch basins within Tank farms are cleaned annually. Additional cleaning is performed if the depth of sediment and debris reaches 60% of the sump depth. This will minimize the total suspended solids and improve the facility's drainage.
The loading rack and other process areas are also inspected daily by the terminal operators. The operators check for leaks, spills or stains of oil and grease. Additionally, they check to ensure the area is free of solids such as trash and used spill pads and gloves. The operators remove any solids daily using adsorbents and dry-sweep methods. In addition, the loading rack pavement and drains are pressure washed annually using cold water only. Hot water and/or detergents or cleaners are not used. Hydrophobic booms are placed around catch basins in the loading rack during pressure washing activities. Wash water from the loading rack cleaning is contained in the LRA Tank (equipped with a manually activated pump to the P-2 oil/water separator; the pump is normally off). Accumulated wash water is removed from the LRA Tank using a vacuum truck and sent to outside waste recycler in accordance with NuStar waste handling policy.
The loading rack strip drains are inspected on a daily basis for sediment or sludge buildup and is removed when observed. The sediment and sludge is removed using shovels and is disposed of following the proper waste disposal methods in accordance with NuStar waste handling policy.
The oil/water separators are inspected monthly to document sediment, debris, and oil/grease. The oil/water separators are cleaned at least annually to maintain effectiveness. Visible debris and oil/grease are removed if and when observed during the routine inspections.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued
Good Housekeeping, Continued
Contractors and their work areas are inspected daily while on the Portland Terminal property. The terminal operators are responsible for overseeing the work area and its cleanliness.
The operators inspect the work area during the work week to ensure that the contractors keep all debris, tools, and parts in the correct containment and that disposal of any waste and debris generated at the jobsite follows the proper procedures. When the job has been completed, the terminal operator inspects the jobsite to ensure that the contractor has satisfactorily completed the tasks assigned and that the area is clean and free from debris.
The equipment and tools used to implement the BMP are as follows: spill pads or other forms of absorbents, brooms, squeegees, shovels, brushes and hoses. Terminal management determines the frequency and where the operators or contractors utilize these items to best implement the BMP.
Brooms, shovels, cold patch or repair asphalt are used to maintain the integrity of the terminal yard and to keep the strip drains free from debris buildup.
Shore Terminals will employ commercial street sweepers to clean paved surfaces, at a minimum, twice a year.
In some areas, stormwater diversions or control devices, such as the berms, culverts, or surface grading, are used to channel or route stormwater runoff away from wastewater drains and wastewater away from stormwater drains at the terminal. Stormwater runoff from adjacent Highway30 is diverted from the site through underground piping and barriers. This BMP is part of the Portland Terminal's practices to ensure the waste system would not be overloaded with water from the area beyond the facility.
Wastewater from Yard 4 and the majority of the area between Yard 4 and Yard 5 are diverted by containment walls, grading, catch basins, and piping to the Main oil/water separator where it is discharged to the POTW.
Preventative Maintenance
The facility routinely implements the following preventative maintenance procedures to minimize pollutants in stormwater discharges from the facility.
The Portland Terminal has a thorough and extensive facility operations equipment preventative maintenance program for tanks, pipelines and machinery. All vehicle and mobile equipment maintenance are performed offsite. The maintenance and inspection program procedures are kept in the terminal office.
The preventative maintenance program is designed to reduce the following potential pollutants from entering the stormwater conveyance system and discharging to the Willamette River: gasoline, diesel fuel, ethanol, additives, biodiesel, and substances related to maintenance.
The terminal yard, tank farms, tanks, product pipelines, loading rack, terminal operations/warehouse, and non-mobile machinery are inspected during the daily terminal inspections by the operators. The terminal operators have daily, weekly, monthly, annual and other additional inspections to perform.
Refer to Appendix A for a complete list of terminal inspections and to the Portland Terminal Operations Manual for the inspection forms.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued
Preventative Maintenance, Continued
If any deficiencies are noted the terminal operator(s) complete a corrective action record and the deficiencies are addressed promptly following the procedures listed in the Portland Terminal Operations Manual. The terminal operators or contractors are utilized to address any deficiencies once they have been noted on the inspection forms.
Once the deficiencies are corrected, the Terminal Operators, contractors or the Terminal Manager makes notations on the inspection sheets, which are located in the Terminal Operators' office.
The Terminal Manager is responsible for assuring that all of the deficiencies are corrected as soon as possible.
The terminal yard is inspected for cracks or degradation of the asphalt during the daily terminal inspections. The stormwater conveyance system is also inspected for the presence of illicit discharges, leaks from storage tanks or equipment, stains or spills. Repairs to the terminal yard or the stormwater conveyance system are corrected as deemed necessary by terminal management.
The tank farms, tanks, product pipelines and non-mobile machinery are visually inspected by the terminal operators during the normal course of their daily duties. Terminal operators use hand tools to calibrate the Varec and temperature gauges, tighten valves and adjust meters.
Any additional required maintenance is promptly performed in accordance with the recommended intervals and practices of the American Petroleum Institute (API). Terminal management, in conjunction with Shore Terminals' engineering personnel, schedule internal and external tank inspection and repairs. Maintenance and inspection records are maintained in the terminal office.
An AVO Inspection (Appendix A) of the entire Portland Terminal is performed daily by terminal operators listening, looking, and smelling for leaks, spills and oil and grease stains. Terminal operators have specific items to inspect which include but are not limited to: additive lines, loading arms, vapor hoses, tank farms and trucks.
Maintenance is performed on a regular schedule in accordance with the API standards. Other equipment such as valves and pumps are inspected annually and serviced. They use hand tools, ladders, replacement hoses and other small parts to complete the maintenance and repairs.
The operations/maintenance areas are inspected by the terminal operators and other operating personnel. Inspections are conducted on a daily basis for leaks, spills and oil and grease stains. Portland Terminal personnel are responsible for addressing any issues that are found during the inspection.
The ship docks have daily inspections of transfer lines, valves, flanges, and surface water.
Building 8 is currently leased to a tenant who uses the building as warehouse for emergency response equipment. No industrial activities are exposed to stormwater will occur at this location. All maintenance and industrial activities must be conducted within an enclosed warehouse area.
Spill Prevention and Response
Refer to **FIGURE5.2-1**.
Material Handling and Waste Management
The facility routinely implements the following material handling and waste management procedures to minimize spills and exposure of pollutants stormwater discharges.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued
Material Handling and Waste Management, Continued
Portland Terminal personnel and contractors follow Shore Terminals, LLC policy and procedures for accumulation areas, waste handling, waste characterization, container management, labeling procedures, recycling, documentation, and other related topics. Proper waste management and waste minimization reduces or prevents the following pollutants from coming into contact with stormwater: hydrocarbons, oil and grease, used absorbents, oily debris, sand blast grit, hazardous waste accumulations, process water, and contaminated soil. Waste is either covered from the weather or stored in containment areas equipped with overhead coverage.
Terminal operators are responsible for daily and weekly inspections of all hazardous waste generated and stored at the terminal. This is documented in NuStar's PM-06 database. Conditions may warrant additional inspections or as deemed necessary by the Terminal Manager.
The loading rack, rail car unloading area, terminal yard, tank farms, and the hazardous waste accumulation and storage area are inspected by the terminal operators for any hazardous waste stored in and around those areas. Operators check waste containers for leaks, spills, and to ensure that all of the waste is located in a secure container and accumulation area. If clean-up is necessary, the terminal operators utilize absorbents, booms, spill pads, shovels, brooms, and squeegees.
Terminal personnel also inspect the contractor work areas for proper waste handling and storage in their designated work area. The terminal operators are responsible for all waste generated on the property and complete annual training in all aspects of waste storage, handling, labeling, management, and disposal.
Terminal personnel utilize the following to manage and oversee waste that is generated at the terminal: The Terminal Operations Manual, NuStar Environmental Management Policy, spill response equipment and tools, absorbent, drums, bins, containment areas, drip pans, and plastic sheeting.
Communication of BMPs is provided in the form of hazardous waste operator refresher training, state-specific waste training to field staff in compliance with applicable Federal and State regulations, and stormwater management training, in addition to the Shore Terminals corporate rules and policies.
Petroleum impacted waste is stored in the hazardous waste containment area. This storage area has a roof minimizing exposure to rain. On occasion, roll-off bins are used to store waste for a temporary period of time. Bins are equipped with durable lids or covered with tarps. Trash receptacles are equipped with lids and are maintained in the closed covered manor.
Erosion and Sediment Control
The facility routinely implements the following erosion and sediment control procedures to minimize erosion.
Terminal operators inspect the loading rack drains and remove sedimentation buildup when observed. Otherwise, loading rack drains are cleaned annually.
Four of the tank farms (Yards 1 - 4) have gravel-covered impoundment floors, while Yard 5 has a synthetic liner. Each of the yard containment has dikes constructed to contain the largest tank volume plus 25-year 24-hour storm. Terminal operators remove any debris daily and visually inspect each tank farm.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued
Erosion and Sediment Control, Continued
Any evidence of erosion or areas needing sediment control is called to the attention of terminal management. Required repairs or the addition of rock or gravel, are made promptly. Gravel, rock, asphalt, concrete, silt fence, shovels and hand tools are used to implement erosion and sediment control. Temporary BMPs are also used at the Portland Terminal to prevent erosion when and where needed and in areas that are undeveloped or in the process of being developed.
Erosion and sedimentation is controlled by covering roadways with asphalt, concrete, and/or crushed rock. As appropriate, crushed rock, sandbags, and/or silt fence maybe used to control areas susceptible to erosion.
Permanent BMPs used at the Portland Terminal to control sediment and prevent erosion include covering surfaces with asphalt, concrete, and crushed rock; and routing runoff along with berms.
The terminal yard is asphalted to control erosion. Terminal personnel periodically inspect the integrity of the asphalt. Terminal operators keep the yard free of excessive debris and sediment.
The catch basins within each tank farm are surrounded by gravel to minimize erosion and sediment transfer.
Dust and Particulate-Generating Activities
The list below identifies the industrial activities at this facility that are known or suspected of generating dust and or particulates:
The industrial activities occurring at the Portland Terminal do not typically generate dust. On occasion, construction or maintenance projects involve the use of heavy equipment & excavations. When these types of activities take place, water is sprayed on earthen materials to minimize dust being transferred. Vehicles within the Terminal travel on paved or graveled roads. If any dust is tracked out, it will be cleaned up promptly.
Employee Training
Refer to **FIGURE7.3-1**.
The facility has developed a training program to maintain employee awareness regarding stormwater pollution prevention practices.
• Portland Terminal requires all new hires to receive initial training in a number of areas pertaining to their positions. There are numerous annual training sessions conducted by Portland Terminal personnel and outside contractors. They include: review of the SWPCP, stormwater training, ICP, SPCC Plan, hazardous waste training, and HAZWOPER.
• Portland Terminal personnel are also participants in monthly safety meetings that cover topics pertaining to safely operating and maintaining the terminal. Although some of the training is not specifically designed to cover stormwater issues, the training courses listed in the table below have stormwater applications.
• Contractors working at the facility are given instruction concerning the stormwater sewer system and how to properly dispose of project-related liquids.
The goal of the SWPCP training program is to teach personnel, at all levels of responsibility, the components and objectives of the SWPCP and to create overall sensitivity to stormwater pollution prevention concerns. **FIGURE 7.3-1** defines the employee training program for this facility.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued

Inspections

Monthly Inspection Requirements

a. The permit registrant must inspect areas where industrial materials or activities are exposed to stormwater and areas where stormwater control measures, including infiltration devices, mass reduction measures, structures, catch basins, and treatment facilities are located. Inspections must include an evaluation of control measures consistent with the SWPCP requirements. Inspections must include observations of all discharge points as well as the following:
   i. Industrial materials, residue, or trash that may have or could come into contact with stormwater;
   ii. Leaks or spills from industrial equipment, drums, tanks, and other containers;
   iii. Offsite and internal tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
   iv. Tracking or blowing of raw, final, or waste materials that results in exposure of stormwater falling on the site;
   v. Evidence of, or the potential for, pollutants entering the drainage system;
   vi. Evidence of pollutants discharging to receiving waters at all discharge point(s);
   vii. Visual observation for the presence of floating and suspended solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge point(s), including discharge points that have been authorized to be substantially similar in accordance with Schedule B.7.c.ii; and
   viii. Stormwater control measures, including treatment, infiltration devices and mass reduction measures, to ensure they are functioning properly, and maintained on designed schedules.
b. Inspections must be conducted by personnel that have completed employee training and are familiar with all aspects of the SWPCP.
c. Conduct visual inspections at the site on a monthly basis when the facility is in operation. The permit registrant must perform visual observations for signs of pollution as required by Schedule B.12.a.vii of the General permit during a discharge event if one occurs during the month, regardless whether the monthly site inspection has already occurred.
d. For exceptionally large facilities where monthly inspections of all areas or visual observation at all substantially similar discharge points are infeasible, DEQ or agent may approve a modified inspection frequency.
e. Conduct visual observations of a sample in a clean, colorless glass or plastic container in well-lit area during regular business hours of operation and safe conditions.
f. The permit registrant's visual observations sample collection does not need to conform to sample collection requirements in Section D8 within Schedule F of the General Permit, but must be representative of the stormwater discharge.
g. Immediately take all reasonable steps to temporarily minimize or prevent the discharge of pollutants until permanent corrective action is complete.
h. Conduct all corrective action required as a result of inspection and visual observation.
i. Document monthly inspections in an inspection report that is retained on-site and submitted to DEQ or agent upon request. The inspection report must include:
   i. The inspection date and time;
   ii. The name(s) of inspector(s);
   iii. Control measures and treatment facilities needing cleaning, replacement, maintenance, reconditioning or repair;
   iv. The condition of the drainage and conveyance system and need for maintenance;
   v. Previously unidentified sources of pollutants;
   vi. Stormwater discharge visual observations, (Tier 1 report is required if visual observation shows evidence of stormwater pollution listed in Schedule B.12.a.vii. of the General Permit);
   vii. Nature of the discharge; whether caused by snow or rain; and
   viii. Any corrective action response, source control or maintenance taken or scheduled to remedy problems found.

Quality Assurance and Recordkeeping

Portland Terminal maintains thorough documentation of stormwater related issues, testing, observations, spills, training, and reporting. All documents for the most recent five years are stored in the terminal files and in the NuStar/HSE West Region office, Elk Grove, California. Records will be made available to DEQ, agent, or local municipality upon request. The records maintained include:

A copy of the SWPCP and any revisions, including revised stamped SWPCP from Tier II corrective action.

A copy of the stormwater permit (**Appendix B**).

DEQ's notice of permit coverage under the current permit term, commonly referred to as the issuance letter (**Appendix B**).

Maintenance and Repair Records - Records for the preventative maintenance and repairs on facility equipment, piping, sewer system, water treatment equipment, and other equipment vital to the terminal operation or prevention of stormwater pollutants is maintained in the Portland Terminal files for at least five years.
Mass reduction measure re-certification (if applicable) as required by Schedule A.6.
Corrective Action Records - If any deficiencies are noted, the terminal operator(s) complete the daily log and the deficiencies are addressed promptly following the procedures listed in the Portland Terminal Operations Manual. Terminal operators or contractors are utilized to address any deficiencies once they have been noted on the inspection forms. Once the deficiencies are corrected, the terminal operators, contractors or Terminal Manager makes notations on the inspection sheets, which are located in the Terminal Operators' office. The Terminal Manager is responsible for assuring that all of the deficiencies are corrected as soon as possible.
Terminal inspection reports: Terminal inspections are completed as required and they include daily, weekly, monthly, quarterly, annual and others; they are maintained in inspection books at the terminal (see **Appendix A**). Terminal operators complete the inspections and retain copies as required by the Portland Terminal retention schedule or by Local, State and Federal regulations.
Analytical and Observation Data - Data from the current stormwater year, which includes discharge observations, analytical results, chains-of-custody, and annual inspection records, are maintained in the Portland Terminal files.
Documentation of any benchmark exceedance and corrective action taken.
All copies of any reports or corrective action submitted to DEQ or agent.
Spill Records - Records of spills and leaks of significant materials that impacted or had the potential to impact stormwater or surface waters are maintained in the Portland Terminal files.
Documentation to support any claim that the terminal has changed its status from active to inactive and is unstaffed with respect to the requirements to conduct routine facility inspections
Data from the current stormwater year, which includes non-stormwater and stormwater observations, discharge monitoring reports, analytical laboratory results, chains- of-custody, pH calibration and field sampling notes, and annual inspection records.
The Portland Terminal maintains thorough documentation of stormwater-related issues, testing, observations, training, and reporting. The Portland Terminal Operations Manual, SWPCP, ICP, and SPCC Plan describe in detail the reporting and documentation necessary for Portland Terminal management and other Portland Terminal personnel. All documents are retained following the Portland Terminal retention schedule and others are stored at the document storage facility contracted by Portland Terminal.
Compliance schedule reports as specified in Schedule C of the General Permit;
Numeric limits exceedance reports.
Water Quality Standards Report.
Employee Education Training Records - Training records for all terminal personnel are documented and maintained in the Portland Terminal files.
Any non-compliance stormwater issue initiated by the terminal operator and followed-up by the Terminal management and/or the environmental coordinator shall be documented in the daily log. Stormwater issues that should be recorded in the daily log include high analytical results, abnormal observations, housekeeping issues, necessary maintenance, follow-up action for spills, and other similar types of issues.

FIGURE 7.1-1 - NON-STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.1-1 - Non-Structural Controls and Best Management Practices, Continued
, Continued Quality Assurance and Recordkeeping, Continued
The daily log is maintained in the Portland Terminal files located in the office building and in the Portland Terminal contracted document storage facility. The resolution of each item is also documented in these files.
Portland Terminal personnel and terminal management also perform periodic audits during the year to ensure that all records, documentation and forms are maintained and completed by terminal operations personnel.

7.2 STRUCTURAL CONTROLS [EPA 832-R-92-006; 2.3]

Where implementation of the measures required by the NPDES Permit does not control stormwater discharges in accordance with Water Quality Standards, the SWPCP shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment. Structural controls may be necessary to prevent uncontaminated stormwater from contacting or being contacted by significant materials or if preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating stormwater. Structural controls shall be used to treat, divert, isolate, recycle, reuse or otherwise manage stormwater in a manner that reduces the level of significant materials in the stormwater and provides compliance with Water Quality Standards. The structural controls include physical structures to prevent or minimize the direct contact of stormwater with sources of significant materials. Refer to **FIGURE 7.2-1** for structural controls and best management practices implemented at this facility.

FIGURE 7.2-1 - STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES

Figure 7.2-1 - Structural Controls and Best Management Practices
Exposure Minimization
Stormwater shelters (e.g., awnings, canopies, roofed pavilions) are installed at the facility to prevent the contact of stormwater with industrial activities and materials.
EXPOSURE MINIMIZATION BMPS **Shelter Description** • Canopies • Awnings • Buildings **Location** • Loading Rack • Tank Farms • Boiler Room • Hazardous Waste Accumulation Area • Olympic Pipeline Manifold • QA Laboratory • Maintenance Areas Contractor's Work Area **Associated Industrial Activity** • Loading and unloading • Hazardous waste accumulation • Transfer pipelines • Maintenance **Industrial Materials** • Hazardous materials • Hazardous waste
Vehicle maintenance is performed offsite. Minor mobile equipment maintenance is performed onsite by outside contractors, with the exception of minor maintenance performed by terminal employees on two utility vehicles (carts). Upon completing maintenance activities, the maintenance area is cleaned, and all non-hazardous and hazardous waste materials are removed by the contractors.
Hazardous waste materials generated from the minor cart maintenance are stored in the Hazardous Waste Accumulation Area until disposed of properly. Insofar as possible, the maintenance activities are performed within covered maintenance areas.
Activities are also monitored to keep them from “creeping-outside”. Maintenance-related paints, solvents, and other such liquid material are kept in covered flammable liquid storage cabinets. Terminal yard and office areas are inspected by terminal operators.

FIGURE 7.2-1 - STRUCTURAL CONTROLS AND BEST MANAGEMENT PRACTICES, *CONT*.

Figure 7.2-1 - Structural Controls and Best Management Practices, Continued

, Continued Exposure Minimization, Continued

Contractor's work areas are inspected prior to, during, and after any work being performed. If necessary and practical, the area is covered to prevent stormwater contact with any of the activities and materials that are being used on site. Terminal operators are responsible for the inspection on a daily basis while the contractor is working onsite.

Stormwater Containment and Discharge Reduction

STORMWATER CONTAINMENT AND DISCHARGE REDUCTION BMPS

Stormwater containment and discharge reduction BMPs that divert, reuse, contain, or reduce the volume of stormwater runoff.

Description: Gravel surrounding the catch basin.

- **Location**: All catch basins with the tank farms.
- **Runoff Sources**: Surface run-off from tank farms
- **Potential Pollutants Reduced**: TSS

Description: Secondary containment walls

- **Location**:
  - Tank Farms Loading Rack Hazardous Waste Accumulation Area
  - **Runoff Sources**: Surface run-off from industrial activities
  - **Potential Pollutants Reduced**: All pollutants

Treatment Control

TREATMENT CONTROL BMPs

Mechanical, chemical, biological, physical, or other treatment control processes that are used to treat stormwater at the facility.

Process / Technology: Oil and water separator

- **Location:**
  P-2 Oil/Water Separator – East of P-3
  Oil/Water Separator – Southeast of Yard 4
- **Runoff Sources:** Surface runoff form the P-2 dock, Terminal area, and Tank Yards 1, 2,and 3, and Upper Terminal Drainage Areas
- **Potential Pollutants Reduced:**
  Oil and grease
  TSS

Process / Technology: Contech StormFilter®

- **Location:** West of Yard 5
- **Runoff Sources:** Surface runoff from Yard 5
- **Potential Pollutants Reduced:** TSS

7.3 EMPLOYEE TRAINING [EPA 832-R-92-006; 2.4.2]

The goal of the SWPCP training program is to teach personnel, at all levels of responsibility, the components and objectives of the stormwater pollution prevention plan and to create overall sensitivity to stormwater pollution prevention concerns. At a minimum, the employee training program must include such topics as spill prevention and response, good housekeeping, and material management practices. The following table (FIGURE 7.3-1) defines the employee training program for this facility.

FIGURE 7.3-1 - EMPLOYEE TRAINING PROGRAM

TRAINING TOPICS	TRAINING DESCRIPTION	SCHEDULE OR FREQUENCY	TARGET ATTENDEES (DEPT. OR POSITION)
Integrated Contingency Plan	The ICP training has two sections, an overview for terminal employees and HAZWOPER / Qualified Responder training. The overview training for terminal employees covers the following topics: responding to a spill event, who to contact, what to report, the documentation of an event, and muster point. HAZWOPER / Qualified Individual /Alternative Individual Training/Local Responder training covers all of the above topics, what to do if they are designated the Incident Commander and a real-life scenario with role playing to gain an understanding of the actions needed during an emergency at the terminal.	Within 30 days for new employees and semi-annual for employees thereafter.	All Portland Terminal employees – General ICP Training; Terminal Managers, Supervisors and Operators – ICP role specific training
Spill Prevention Control and Countermeasures (SPCC) Plan	SPCC training covers the following topics and activities: terminal personnel are instructed in the proper operation and maintenance of the terminal, discharge equipment, applicable laws, rules, and regulations, types of potential pollutants, products, amounts, and tank contents.	Annually	Terminal Managers, Supervisors and Operators
Hazardous Waste	Hazardous Waste training covers the following topics: documentation, containment, labeling of waste generated at the terminal, waste characterization, proper disposal procedures, what types of personal protective equipment to wear when dealing with hazardous waste, and all terminal personnel watch a video overview of hazardous waste.	Annually	Portland Terminal employees handling or overseeing hazardous waste at and Portland Terminal – generally Terminal Operators

FIGURE 7.3-1 - EMPLOYEE TRAINING PROGRAM, CONTINUED

TRAININGTOPICS	TRAINING DESCRIPTION	SCHEDULE OR FREQUENCY	TARGET ATTENDEES (DEPT. OR POSITION)
Stormwater Pollution Control Plan (SWPCP)	Stormwater training covers the following information and topics: SWPCP, stormwater monitoring, proper sampling procedures and documentation, correctly completing forms associated with the stormwater monitoring program, addressing non-stormwater discharges, and unauthorized non-stormwater discharges, compliance issues with the stormwater General Permit, permit required inspections, and the implementation and creation of site controls/BMPs.	Annually	Portland Terminal employees responsible for handling stormwater and sampling - Terminal Operators (All Portland Employees)
Safety Meetings	Safety meetings cover a range of topics: proper personal protective equipment, gauging techniques, hazardous materials, back safety, spill response and others. See Terminal Supervisor for a complete list of training topics.	Monthly or as necessary	All Terminal employees
Job-Related Courses	Job related courses are specific to each position. See the Terminal Manager for a complete list of job-related courses.	As deemed necessary	Selected Portland Terminal employees

SECTION 8
SPECIAL REQUIREMENTS [EPCRA SECTION 313]

Last Revised: August 31, 2021

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8.1 Special Requirements [EPA 832-R-92-006; 2.7]

Figure 8-1 - Special Requirements

8.1 SPECIAL REQUIREMENTS [EPA 832-R-92-006; 2.7]

In addition to the Best Management Practices identified in this plan, facilities may be subject to additional "special" requirements, as defined in the facility's permit. In particular, EPA's NPDES Permit includes special requirements for (A) facilities that discharge stormwater through municipal separate storm sewer systems, (B) facilities subject to EPCRA, Section 313, reporting requirements, (C) facilities with salt storage piles, and (D) state requirements. The following table (**FIGURE 8-1**) identifies special requirements applicable to this facility and provides additional information to address these conditions or criteria.

FIGURE 8-1 - SPECIAL REQUIREMENTS

Figure 8-1 - Special Requirements
Not Applicable

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APPENDICES

A. INSPECTION LOGS

B. FACILITY PERMITS AND CERTIFICATIONS

C. RECORD OF CHANGES

APPENDIX A
INSPECTION LOGS

Last Revised: August 31, 2021

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A.1 Inspection Logs

Figure A-1 - Terminal Inspections

Figure A-2 - Portland Discharge, Sample Daily Inspection Log Sheet

Figure A-3 - Preventative Maintenance Inspection

Figure A-4 - Inspection Report

Figure A-5 - StormFilter® Maintenance Report

Figure A-6 - Monthly Catch Basin Inspection

Figure A-7 - AVO Leak Inspection Form

Figure A-8 - Discharge Monitoring Report Form

A.1 INSPECTION LOGS

FIGURE A-1 - TERMINAL INSPECTIONS

Click to view/print Terminal Inspections, 2015 08 10

SHORE TERMINALS LLC, PORTLAND TERMINAL
TERMINAL INSPECTIONS

Inspections:

Daily Inspections:

AVO Inspections (All terminals twice daily)
Hazardous Waste Inspections

Monthly Inspections:

Cathodic Protection (Impressed Current)
Fire Extinguishers
Above Ground Tanks (Monthly External Inspection)
SPCC/Tank Inspections
Tank High Level Alarms Test
Oil/Water Separator
Storm Water Outfalls
Catch Basins

Quarterly Inspections:

Security Seal Integrity
Hose Visual Inspection
Additive System Shut Down and Calibration
Vapor Holder
Inspection of Pressure / Vacuum Vents and Flame Arrestors
Thermometers

Annual Inspections:

Comprehensive Terminal Inspection
Cathodic Protection (Impressed Current) and Sacrificial Anodes
Non-product Pressure Vessels
Floating Roof Seal Inspections
Retentions of Forms
Hose Test
Fire Hydrants
Fire Extinguishers
Tank High-Level Alarm Transmitters
Vapor Recovery Gauges / Thermometers
Security Seal Inspection
Delivery Equipment Inspection
Fire Foam System Inspection
Flame Arrestors
Oil Transfer Pipe System-Hydro test
Drum Testing

Other Inspections:

Tank Alarm System Inspection (minimum of Bi-annual)
Vapor Control System
Effluent Control (minimum every 3 years)
Loading Rack Static Eliminator Check (every other quarter)
Product Piping Integrity (perform when surfaces are visible)
Underground piping
Drain Piping
Internal Inspection of Aboveground Tanks for Product Quality
Meter Prover Calibration
Strainers
Relief Valves
Portable Fire Extinguishers

FIGURE A-2 - PORTLAND DISCHARGE, SAMPLE DAILY INSPECTION LOG SHEET

Click to view/print Portland Discharge, Sample Daily Inspection Log Sheet

SHORE TERMINALS LLC - PORTLAND DISCHARGE/SAMPLE DAILY INSPECTION LOG SHEET

Month: _____ Drainage Area (Circle one) : P2 or P3

Date	Time	Weather	Valve (O/C)	Outfall Flow	Oil Sheen	Foam	Color	Odor	Solids*	Other	Operator
					CHECK Y/N? (Y for yes and N for No)						
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
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Comments:

** Solids - Look for floating, suspended or settleable solids during inspection.*

FIGURE A-3 - PREVENTATIVE MAINTENANCE INSPECTION

Click to view/print Preventative Maintenance Inspection

Preventative Maintenance Inspection
Industry Name: SHORE TERMINALS/NU STAR

Preventative Maintenance Inspection MUST BE completed monthly, DOES NOT need to occur during a discharge event

Date		Time	
Weather Conditions			
Inspector			

		Yes	No	Observations/Notes	If YES: Describe Corrective Actions Needed	Date Corrective Actions Completed
Site Inspection						
Loading/Unloading area	Debris accumulated					
	Signs of spills or leaks					
	Liquids stored outside of bermed area					
	Catch basin cover absent					
Maintenance building	Oil/grease/fuel stains buildup					
	Waste fluids/solvents stored outside					
Material storage	Hazardous substances without secondary containment					
	Hazardous substances without cover					
	Signs of spills or leaks					
Waste storage	Dumpsters uncovered					
	Scrap metals uncovered					
General site conditions	Signs of spills or leaks					
	Signs of significant erosion					
	Signs of debris or sediment accumulation					
	Equipment leaking					
	Cracks or degraded asphalt					
Spill kit materials missing?						
Stormwater Control Measures						
Catch Basins/Manholes	Filter inserts need replacement					
	Oil/grease scum					
	Sediment buildup					
	Floating debris					
	Damaged grates or elbows					
Valves	Functional					
Oil-Water Separator	Depth of Sediment accumulation					
	Depth of oil/grease layer					
Curbing/berms	Cracked/damaged					
	Accumulated stormwater with sheen or floating solids					
Manufactured Facilities	Sediment or oil accumulation					
	Depth of sediment accumulation on filters					
	Filters require replacement					

FIGURE A-4 - INSPECTION REPORT

Click to view/print Inspection Report

Inspection Report

Date: _____ Personnel: _____

Location: _____ System Size: _____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

Sediment Thickness in Forebay: _____ Date: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Estimated Flow from Drainage Pipes (if available): _____

Cartridges Submerged: Yes ☐ No ☐ Depth of Standing Water: _____

StormFilter Maintenance Activities (check off if done and give description)

☐ Trash and Debris Removal: _____

☐ Minor Structural Repairs: _____

☐ Drainage Area Report _____

Excessive Oil Loading: Yes ☐ No ☐ Source: _____

Sediment Accumulation on Pavement: Yes ☐ No ☐ Source: _____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source: _____

Items Needing Further Work: _____

Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals.

Other Comments:

_____

_____

_____

_____

_____

_____

_____

_____

FIGURE A-5 - STORMFILTER® MAINTENANCE REPORT

Click to view/print StormFilter® Maintenance Report

StormFilter Maintenance Report

Date: _____ Personnel: _____

Location: _____ System Size: _____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

List Safety Procedures and Equipment Used: _____

_____

_____

System Observations

Months in Service:

Oil in Forebay: Yes ☐ No ☐

Sediment Depth in Forebay: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Drainage Area Report

Excessive Oil Loading: Yes ☐ No ☐ Source: _____

Sediment Accumulation on Pavement: Yes ☐ No ☐ Source: _____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source: _____

StormFilter Cartridge Replacement Maintenance Activities

Remove Trash and Debris: Yes ☐ No ☐ Details: _____

Replace Cartridges: Yes ☐ No ☐ Details: _____

Sediment Removed: Yes ☐ No ☐ Details: _____

Quantity of Sediment Removed (estimate?):

Minor Structural Repairs: Yes ☐ No ☐ Details: _____

Residuals (debris, sediment) Disposal Methods: _____

Notes:

_____

_____

_____

_____

_____

_____

_____

FIGURE A-6 - MONTHLY CATCH BASIN INSPECTION

Click to view/print Monthly Catch Basin Inspection

NuStar Monthly Drain Inspection

Name:		PMO6#			
Date:					
#	Location	Drain Sock Fully Intact (Y/N)	Sheen (Y/N)	Drain Sock 1/2 full of Sediment (Y/N)	Sock Changed (Y/N)
1	Main Office Entrance				
2	Lower Main Office Parking Lot				
3	Operation's Office- South End				
4	Operation's Office- South End				
5	Operation's Office- South End				
6	Operation's Office- North End				
7	Operation's Office- North End				
8	VRU				
9	Tank 181				
10	Tank 23				
11	Olympic Parking Lot				
12	Truck Rack- Road Way in Front (includes strip drain)				
13	Truck Rack- Lane #1 Front				
14	Truck Rack- Lane #1 Back				
15	Truck Rack- Lane #2 Front				
16	Truck Rack- Lane #2 Back				
17	Truck Rack- Lane #3 Front				
18	Truck Rack- Lane #3 Back				
19	Warehouse- Straight in Front				
20	Black Oil Pump Pad				
21	Center Manifold- West Side				
22	Tank Farm 2- West Side				
23	Sample Storage Area- Entrance				
24	New Remediation System- West Side				
25	Building 8- South				
26	Building 8- South				
27	Building 8- South (strip drain)				
28	Building 8- West				
29	Building 8- North Side (strip drain)				
30	Building 8- North Side				
31	Yard #1- North End				
32	Yard #1- North End (truck pump off area)				
Comments (write additional comments on the back of the sheet)					

Created: 6/3/2014

NuStar Monthly Drain Inspection Map

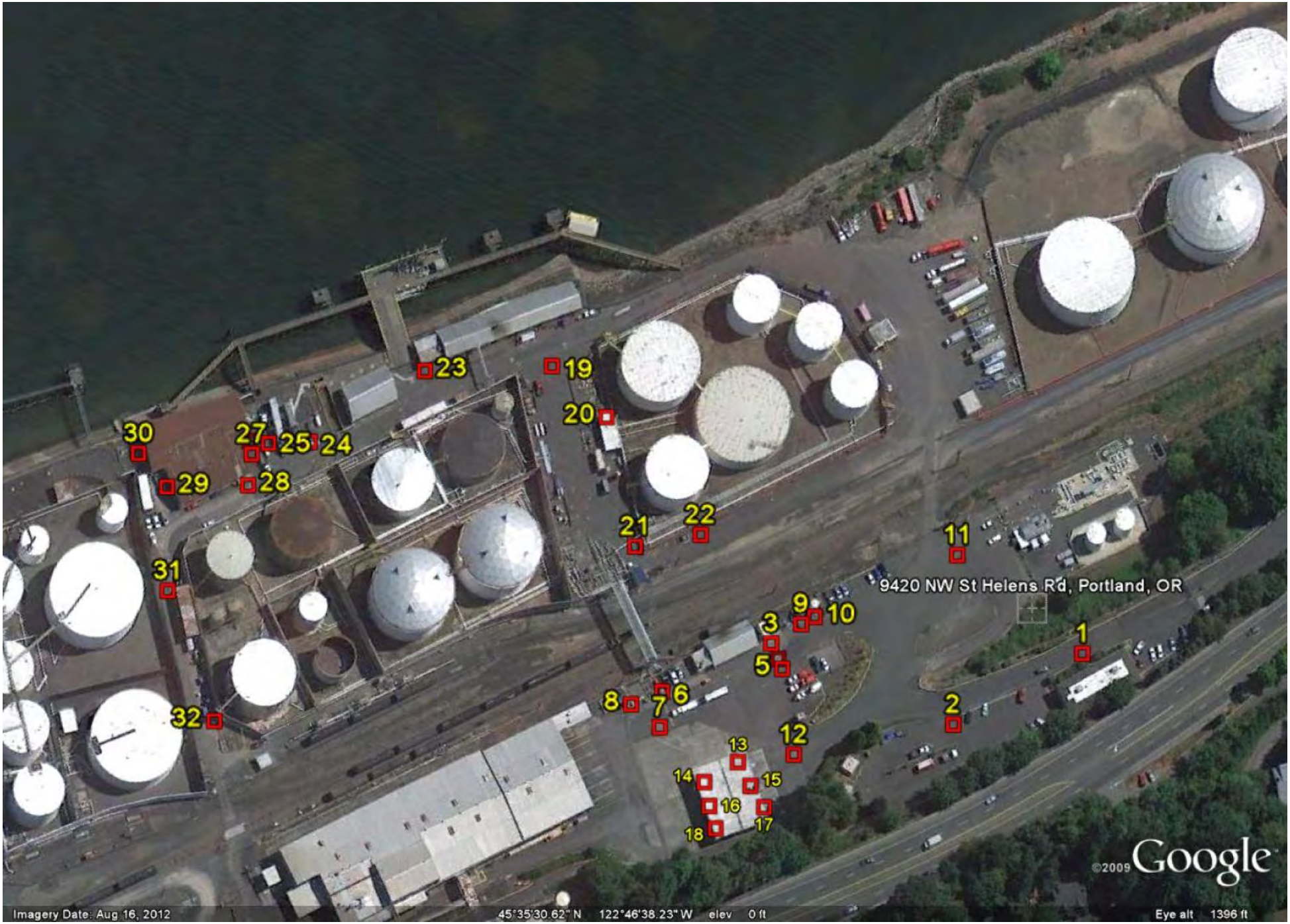

FIGURE A-7 - AVO LEAK INSPECTION FORM

Click to view/print AVO Leak Inspection Form

AVO Leak Inspection

(Audio, Visual, Olfactory)

Facility: NuStar Portland							
Inspection Frequency: Once per Shift							
You Must List The Type Of Leak (weep, drip or flow)							
Any AVO Finding Noted On This Sheet Must Be Accompanied By A Work Order							
Operators:			Date:		Shift Hours:		
Operator	Area (REQUIRED)	Leak Y/N	Product	Item Leaking	Leak Type	Severtiy	Work Order #
	Yard 1						
	Yard 2						
	Yard 3						
	Yard 4						
	Yard 5						
	Truck Lane 1 & Vapor Hoses						
	Truck Lane 2 & Vapor Hoses						
	Truck Lane 3 & Vapor Hoses						
	Truck Lane 4						
	Building #10						
	Building #11						
	Additive Tank 181						
	Rail Spur						
	Load Rack Pumps						
	P2 Kinder Morgan Manifold						
	P2 Olympic Manifold						
	Shop						
	P2 Dock						
	P2 Boat						
	Building #13						
	P3 Manifold						
	P3 Dock						

AVO Leak Inspection

(Audio, Visual, Olfactory)

Facility: NuStar Portland		
Inspection Frequency: Once per Shift		
Original on file at the facility (No copies disseminated) Retain this form for five years		
Leak repairs must be completed within five days or reasons for repair delays must be documented below		
Operator:	Date:	Shift Hours:

Record any Items to be repaired in comments				
Operator	Item	Location	Issue	Comments
	Housekeeping			
	Lighting			
	Lids on Garbage and Metal dumpsters are to be closed			

SEPARATOR					
Operator	Equipment	Sheen Y/N	Compartment #	Water in Vault	Sheen in River Y/N
	Contact Filters				
	P2 Separator			N/A	

VISIBLE EMISSIONS CHECK					
Operator	Equipment	Operating Y/N	Visible Emissions Y/N	Dusting Y/N	Emissions Reported to HSE
	Boiler			N/A	
	VRU				

VRU Vapor/Leak Inspection		
Any vapor or liquid leak for the VRU and vapor collection system? Yes No		
Location of repair	Date of repair	Work Order Number

COMMENTS

APPENDIX B
FACILITY PERMITS AND CERTIFICATIONS

Last Revised: August 31, 2021

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B.1 Facility Permits and Certifications

Figure B-1 - 1200-Z General Permit Reissuance 10/22/2018

Figure B-2 - NPDES Permit Issuance Letter

B.1 FACILITY PERMITS AND CERTIFICATIONS

FIGURE B-1 - 1200-Z GENERAL PERMIT (2021-2026)

Click to view/print 1200-Z General Permit

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
INDUSTRIAL STORMWATER DISCHARGE PERMIT No. 1200-Z
Department of Environmental Quality
700 NE Multnomah St., Suite #600 Portland, OR 97232
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and the Federal Clean Water Act

REGISTERED TO:

SOURCES COVERED UNDER THIS PERMIT:

A facility that may discharge industrial stormwater to surface waters or to conveyance systems that discharge to surface waters of the state and,

1. The stormwater is associated with an industrial activity identified in Table 1: Sources Covered or listed in Table 2: Additional Industrial Activities Covered; or
2. The facility is notified in writing the Director determines coverage under this permit is required for its stormwater discharges pursuant to 40 CFR 122.26(a)(9)(i)(D).

Note:

1. Facilities may apply for conditional exclusion from the requirement to obtain coverage under this permit if there is no exposure of industrial activities and materials to stormwater pursuant to 40 CFR §122.26(g); see Permit Coverage and Exclusion from Coverage.
2. The following are not eligible to obtain coverage under this permit:
    i. Construction activities. This activity is covered under a separate general permit.
    ii. Any source with primary Standard Industrial Classification codes 2951 and 3273, including mobile asphalt and concrete batch plants; and Standard Industrial Classification code 14, Mining and Quarrying of Nonmetallic Minerals, Except Fuels. These activities are covered under a separate general permit.
    iii. Any source that has obtained an individual NPDES permit for the discharge, unless the source is otherwise eligible for coverage under this permit and DEQ has approved the source's application for coverage under this general permit.
    iv. Any source that discharges to a sanitary sewer system and the discharge is approved by the sanitary sewer operator.

Issuance Date: March 25, 2021

_____

Justin Green, Administrator
Water Quality Division

PERMITTED ACTIVITIES

Until this permit expires, is modified, or revoked, the permit registrant is authorized to construct, install, modify, or operate stormwater treatment or control facilities, and to discharge stormwater and non-stormwater discharges specifically authorized by the permit to surface waters of the state in conformance with all the requirements, limitations, and conditions set forth in the following:

CONDITION I 5
PERMIT COVERAGE AND EXCLUSION FROM COVERAGE 5
SCHEDULE A 10
EFFLUENT LIMITATIONS AND PERMIT COMPLIANCE 10
WATER QUALITY-BASED EFFLUENT LIMITATIONS 13
STORMWATER DISCHARGE 14
STORMWATER POLLUTION CONTROL PLAN 15
BENCHMARK EXCEEDANCES AND VISUAL OBSERVATION CORRECTIVE ACTIONS 20
CATEGORY 5: 303(d) LIST IMPAIRMENT EXCEEDANCE RESPONSE 23
PERMIT COMPLIANCE 25
SCHEDULE B 26
MONITORING REQUIREMENTS 26
INSPECTIONS 33
REPORTING AND RECORDKEEPING REQUIREMENTS 34
SCHEDULE C 38
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SECTOR-SPECIFIC REQUIREMENTS 45
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Unless specifically authorized by this permit, by regulation issued by EPA, by another NPDES permit, or by Oregon Administrative Rule or Oregon Revised Statute, any other direct or indirect discharge to waters of the state is prohibited, including non-stormwater discharges to an underground injection control system.

Schedule E contains sector-specific federal requirements. Schedule F contains General Conditions that are included in all general permits issued by DEQ. If conflicts arise between Schedule E or Schedule F and any other schedule of the permit, the requirements in Schedule E or Schedule F may not apply.

Table 1: Sources Covered

Industrial Sources Covered Under this Permit
Facilities with the following primary Standard Industrial Classification (SIC) codes: 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction 20 Food and Kindred Products 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 24 Lumber and Wood Products, Except Furniture (Activities with SIC 2411 Logging that are defined in 40 CFR §122.27 as silvicultural point source discharges are covered by this permit.) 25 Furniture and Fixtures 26 Paper and Allied Products 27 Printing, Publishing and Allied Industries 28 Chemicals and Allied Products Manufacturing and Refining (excluding 2874: Phosphatic Fertilizers) 29 Petroleum Refining and Related Industries (excluding 2951, covered by 1200-A) 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Glass, Clay, Cement, Concrete and Gypsum Products (excluding 3273, covered by 1200-A) 33 Primary Metal Industries 34 Fabricated Metal Products 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage 5015 Motor Vehicle Parts, Used 5093 Scrap and Waste Materials
Facilities with the following primary SIC codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations[1]: 40 Railroad Transportation 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Trucking and Courier Services, Except Air (excluding 4221, 4222, and 4225) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals, except petroleum sold via retail method
Steam Electric Power Generation including coal handling sites
Landfills, land application sites and open dumps
Hazardous Waste Treatment, storage and disposal facilities
Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR §403

[1]Eligibility based on auxiliary operations; however, once covered all stormwater discharge associated with industrial activities are regulated under this permit.

Facilities that discharge stormwater into the Columbia Slough or Portland Harbor that is exposed to any of the industrial activities listed in Table 2 below, are eligible to obtain permit coverage under the NPDES 1200-Z permit.

Table 2: Additional Industrial Activities Covered

Discharges to Columbia Slough and Portland Harbor
Maintenance of vehicles, machinery, equipment, and trailers (including repairs, servicing, washing, testing and painting)
Storage of vehicles, machinery, equipment (including disposal/refuse containers stored by a disposal/refuse contractor/vendor), and trailers (including rental, sales, wrecked vehicles, fleet, and general storage)
Materials storage (including raw materials; bulk fuels, chemicals, detergents, and plastic pellets; finished materials; lumber and food products; wholesale gravel, sand, and soil stockpiles; and bulk liquids other than water)
Waste handling (including recycled product storage, composting, tires, and bulk hazardous waste)
Commercial animal operations (such as kennels, race tracks, and veterinarians not covered under a Confined Animal Feeding Operation permit)
Fuel distribution and sales (including bulk stations, fuel oil dealers, manned and unmanned retail stations, fleet fueling, mobile fueling, and truck stops)
Any former activity that resulted in significant materials (as defined in Schedule D) remaining on-site

CONDITION I

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1. **New Discharger to Impaired Waters** (see Schedule D.3, Definitions)
   a. A new discharger to an impaired water without a Total Maximum Daily Load (TMDL), based on the EPA-approved Category 5: 303(d) list in effect at the time of permit application for pH, copper, lead, zinc, iron, and E. coli that correspond to the specific pollutant(s) for which the water body is impaired must meet one of the following conditions to obtain coverage under this permit:
      i. Prevent exposure to stormwater for pH, copper, lead, zinc, iron and E. coli that correspond to the specific pollutant(s) for which the water body is impaired. Document the procedures taken to prevent exposure in the Stormwater Pollution Control Plan (SWPCP).
      ii. Provide technical demonstrations that sources of pH, copper, lead, zinc, iron and E.coli that correspond to the specific pollutant(s) for which the water body is impaired are not present at the site and document these findings and considerations in the SWPCP.
      iii. Provide DEQ or agent stormwater discharge analytical sampling results to demonstrate the discharge of stormwater is not expected to cause or contribute to an exceedance of water quality standards for pH, copper, lead, zinc, iron and E. coli that correspond to the specific pollutant(s) for which the water body is impaired at the point of discharge and retain in the SWPCP.
   b. If unable to demonstrate pH, copper, lead, zinc, iron and E. coli that correspond to the specific pollutant(s) for which the water body is impaired will not be present in the discharge, provide DEQ or agent with other technical information that demonstrates the discharge is not expected to cause or contribute to an exceedance of water quality standards at the point of discharge and document the rationale in the SWPCP.
      i. Prior to DEQ granting coverage, DEQ or agent will determine and document that Condition I.1.a or b has been satisfied.
   c. A new discharge of pollutant may be authorized by this permit to an impaired water with a TMDL (based on EPA-approved TMDLs as of March 31, 2021) under one of the following circumstances:
      i. The TMDL does not establish industrial stormwater wasteload allocations, the compliance with the terms and conditions of the permit is presumed consistent with the TMDL.
      ii. The TMDL establishes industrial stormwater wasteload allocations, and DEQ determines that there is sufficient remaining loading capacity in the TMDL to allow for the new industrial stormwater discharge.
   d. If a new discharge to an impaired water is authorized under this permit, DEQ or agent will establish additional monitoring and site controls as necessary. DEQ or agent may determine a compliance schedule is necessary.
   e. DEQ may determine that coverage under an individual NPDES permit is required.
   f. Conditions I.1.a and I.1.c above do not apply if the waterbody is impaired for:
      i. Biological communities (biocriteria), including harmful algal blooms and aquatic weeds, where no pollutant including indicator or surrogate pollutants, is specified as causing the impairment; or
      ii. Temperature, habitat and flow modifications.

2. Application Requirements for New Permit Coverage

a. The following conditions apply to:
   i. New facility: Submit a complete application to DEQ or agent (see Schedule D.4 for description of agent) at least 60 calendar days before initiating the activity that requires permit coverage, unless DEQ or agent approved a later date.
   ii. Existing facility with stormwater discharges associated with industrial activities identified in Table 1 or Table 2 operating without coverage under any NPDES permit for those discharges: Immediately submit a complete application to DEQ or agent, unless DEQ or agent approved a later date.
   iii. Existing facility that is designated by the Director as needing a stormwater permit pursuant to 40 CFR §122.26(a)(9)(i)(D): No later than 60 calendar days of being notified by DEQ that permit coverage is required, submit a complete application to DEQ or agent.
   iv. Existing facility with stormwater discharges authorized by an individual NPDES permit that seeks coverage under this permit: Submit a complete application to DEQ or agent and a copy of the individual NPDES permit.

b. A complete web-based electronic application, as required by DEQ, must include the following:
   i. Applicable permit fees;
   ii. DEQ-approved application form;
   iii. A determination, on a DEQ-approved form, from the local government agency with land use jurisdiction that states the use is compatible with acknowledged local land use plans; and
   iv. One PDF copy of the SWPCP.

c. DEQ will accept paper applications:
   i. With an approved waiver from electronic submission; or
   ii. Until directed by DEQ.

d. Permit Coverage
   i. Prior to granting the applicant coverage under this permit, DEQ will provide a 30 calendar day public notice period on the applicant's SWPCP. DEQ or agent will respond to any applicable public comments.
   ii. DEQ will notify the applicant if coverage is granted or denied. When coverage is granted, DEQ or agent will specify and communicate monitoring requirements to the permit registrant.

e. If coverage is denied or the applicant does not wish to be regulated by this permit, the applicant must apply for an individual permit in accordance with OAR 340-045-0030 or cease discharge.

3. Existing Facilities Covered Under the 1200-Z NPDES General Permit Reissued in 2018

a. DEQ will notify existing permit registrants of assignment under the current permit. Permit registrants that seek uninterrupted coverage must submit an updated SWPCP to DEQ or agent by August 31, 2021, unless DEQ or agent approved a later date.

b. Existing permitted facilities must comply with the implementation deadlines established under the previous 1200-Z NPDES permit, including Tier 2 corrective action requirements.

c. Existing permitted facility that intend to change industrial processes at the site to an new primary industrial sector must submit the following to DEQ or agent at least 60 calendar days before initiating the planned change:

i. A determination, on a DEQ-approved form, from the local government agency with land use jurisdiction that states the new industrial use is compatible with acknowledged local land use plans;
ii. A revised SWPCP; and
iii. Environmental management plan review fee.

d. DEQ will provide a 30 calendar day public notice period on the revised SWPCP.
e. DEQ or agent will specify and communicate monitoring requirements to the permit registrant.

4. Name Change or Transfer of Permit Coverage

a. For a name change or transfer of permit coverage between legal entities, the new owner or operator must submit a web-based electronic transfer or legal name change to DEQ, when directed by DEQ a paper form is no longer accepted, no later than 30 calendar days after the name change or transfer of control of the facility is complete. A complete name change or transfer must include the following:
   i. One Name Change and/or Permit Transfer form;
   ii. One PDF copy of an updated SWPCP; and
   iii. Permit transfer, legal name change fee.
b. DEQ will notify the applicant if the name change or transfer is approved or denied.
c. Transfer of permit coverage between legal entities where there will also be a change in an industrial processes at the site to a new primary industrial sector are ineligible for permit transfer. The new owner or operator must submit an application for new permit coverage under this permit as required in Condition I.2 above.

5. "No Exposure" Conditional Exclusion from Permit Coverage

a. An owner or operator that applies for a "no exposure" conditional exclusion under 40 CFR §122.26(g) from coverage under this permit must:
   i. Protect industrial materials and activities from exposure to rain, snow, snowmelt, and runoff by using a storm resistant shelter, except as provided in the Environmental Protection Agency (EPA) Guidance Manual for Conditional Exclusion from Stormwater Permitting Based on "No Exposure" of Industrial Activities to Stormwater (EPA 833-B-00-001, June 2000) and EPA's Fact Sheet on Conditional No Exposure Exclusion for Industrial Activity (EPA 833-F-00-015, revised December 2005). Storm resistant shelters with unsealed zinc or copper roofing materials are not eligible for the "no exposure" conditional exclusion;
   ii. Ensure that known significant materials from previous operations are controlled, removed or otherwise not exposed to stormwater.
   iii. When directed to do so by DEQ, complete and sign a web-based electronic DEQ-approved certification, that there is no stormwater exposure to industrial materials and activities from the entire facility, otherwise submit in paper format.
   iv. Submit the signed certification to DEQ or agent once every five years, beginning five years after the date of first submittal. If DEQ or agent does not comment on the "no exposure" certification within 60 calendar days, the "no exposure" conditional exclusion is deemed approved. DEQ or agent may notify the applicant of its approval. The owner or operator must keep a copy of the approved certification on-site.

v. Allow DEQ or agent to inspect the facility to determine compliance with the "no exposure" conditions listed above; and
vi. If the facility discharges through a municipal separate storm sewer system (MS4) submit a copy of the "no exposure" certification to the MS4 operator (for example, local municipality or district), if requested, and allow inspection and public reporting by the MS4 operator.

b. Limitations for obtaining or maintaining the exclusion:
i. This exclusion is available on a facility-wide basis only, not for individual discharge points.
ii. If any industrial materials or activities become exposed to rain, snow, snowmelt, or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement. Any conditionally exempt discharger who anticipates changes in circumstances must apply for and obtain permit coverage before the change of circumstances.
iii. DEQ or agent retains the authority to determine that the "no exposure" conditional exclusion no longer applies and require the owner or operator to obtain permit coverage.

6. Authorized Non-Stormwater Discharges

a. Subject to the terms and conditions of the permit and Oregon law, the following non-stormwater discharges are authorized:
i. Discharges from emergency or unplanned fire-fighting activities;
ii. Fire hydrant flushing and maintenance;
iii. Potable water, including water line flushing;
iv. Uncontaminated condensate from air conditioners, coolers, chillers and other compressors, and from outside storage of refrigerated gases and liquids;
v. Landscape watering and irrigation drainage;
vi. Exterior vehicle wash water that does not use hot water or detergent; restricted to less than eight per week;
vii. Pavement wash water that does not use hot water, detergent or other cleaning products, no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed), and surfaces are swept before washing;
viii. Routine external building wash down that does not use hot water, detergent or other cleaning products;
ix. Uncontaminated ground water or spring water;
x. Foundation or footing drains where flows are not contaminated with process materials; and
xi. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

7. Limitations on Coverage

a. Pursuant to OAR 340-045-0033(10), DEQ may deny permit coverage to an applicant or revoke existing coverage under this permit and require the owner or operator to apply for and obtain an individual permit.
b. The permit registrant must separate any piping of interior floor drains and process wastewater discharge points from the storm drainage system to prevent unpermitted discharge of pollutants to waters of the state. Discharge from floor drains to the stormwater drainage system is a violation of this permit.

c. Any other wastewater discharge or disposal, including stormwater mixed with wastewater is not authorized under this permit and must be permitted in a separate permit, unless the wastewater is reused or recycled without discharge or disposal, or is discharged to the sanitary sewer with approval from the sanitary sewer system operator.
d. Except for sectors G, H, L and K in accordance with Schedule E, construction stormwater discharge resulting from disturbance of an acre or more is not authorized.
e. Coverage under this permit is not available under the following circumstances:
    i. If all stormwater discharges are regulated by another NPDES permit, except a MS4 permit.
    ii. If stormwater discharges were included in a permit that has been or is in the process of being denied, terminated or revoked unless the source is otherwise eligible for coverage under this permit and DEQ approves the source's application to register under this permit and simultaneously revokes coverage under the other permit pursuant to OAR 340-045-0033(8).
    iii. If stormwater discharge is covered under an individual NPDES permit that establishes site-specific numeric water quality-based effluent limitations.
    iv. For a new discharger to waters designated as Outstanding Resource Waters for antidegradation purposes under 40 CFR 131.12(a)(3) and OAR 340-041-0004.
f. Any operator eligible for coverage not seeking coverage under this general permit must apply for an individual NPDES permit in accordance with the procedures in OAR 340-045-0030.

SCHEDULE A

EFFLUENT LIMITATIONS AND PERMIT COMPLIANCE

1. Narrative Technology-based Effluent Limits

The permit registrant must meet the following narrative technology-based effluent limits and additional sector-specific limits in Schedule E of this permit, if applicable.

a. Minimize exposure - Minimize exposure of manufacturing, processing, material storage areas, loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain, snow, snowmelt and runoff. To the extent technologically available and economically practicable and achievable in light of best industry practice, the permit registrant must do the following:

i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include, permanent structures such as roofs or buildings or properly secured temporary covers such as tarps;

ii. Use grading, berming, or curbing to divert stormwater away from these areas and prevent stormwater contamination;

iii. Locate materials, equipment and activities in containment and diversion systems, including the storage of leaking or leak-prone vehicles and equipment awaiting maintenance, to prevent leaks and spills from contaminating stormwater;

iv. Use drip pans or absorbents under or around leaking or leak-prone vehicles/equipment or store indoors;

v. Drain fluids from equipment and vehicles prior to on-site storage or disposal;

vi. Perform all cleaning operations indoors, under cover or in bermed areas that prevent runoff and run-on and also captures overspray, unless allowed by Condition I.6; and

vii. All wash water must be managed indoors or in bermed areas, disposed into sanitary sewer or drain to a proper collection system such as a closed-loop system or vegetated area that does not discharge into the stormwater drainage system unless Condition I.6 which allows authorized non-stormwater discharge is met.

b. Oil and Grease - Employ oil/water separators, booms, skimmers or other methods to eliminate or minimize oil and grease contamination in stormwater discharges.

c. Waste Chemicals and Material Disposal - Recycle or properly dispose of wastes to eliminate or minimize exposure of pollutants to stormwater. Cover all waste contained in bins or dumpsters where there is a potential for drainage of stormwater through the waste to prevent exposure of stormwater to these pollutants. Acceptable covers include, storage of bins or dumpsters under roofed areas or use of lids or properly secured temporary covers such as tarps.

d. Erosion and Sediment Control - Stabilize exposed areas, including areas where industrial activity has taken place in the past and significant materials remain, and contain runoff using structural and nonstructural controls to minimize erosion of soil at the site and sedimentation. Employ erosion control methods, such as vegetating exposed areas, graveling or paving to minimize erosion of soil at the site. Employ sediment control methods, such as detention facilities, vegetated filter strips, bioswales, flow velocity dissipation devices or other permanent erosion or sediment controls to minimize sediment loads in stormwater discharges. Identify any use of stabilization polymers or chemicals. For activities that involve land disturbance, the permit

registrant must contact the local municipality to determine if there are other applicable requirements related to stormwater control.

e. Debris Control - Employ screens, booms, settling ponds, or other methods to eliminate or minimize waste, garbage and floatable debris in stormwater discharges and ensure that this debris is not discharged to receiving waters.
f. Dust Generation and Vehicle Tracking of Industrial Materials - Minimize generation of dust, off-site tracking and discharge of soil, particulates and raw, final or waste materials.
g. Housekeeping - Routinely clean all exposed areas that may contribute pollutants to stormwater with measures such as sweeping at regular intervals, litter pick-up, keeping materials orderly and labeled, promptly clean-up spills and leaks, proper maintenance of vehicles and stowing materials in appropriate containers.
h. Spill Prevention and Response Procedure - Minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans that include methods for spill prevention and clean-up and notification procedures. At a minimum, the permit registrant must conduct spill prevention and response measures including the following:
    i. Clean up spills or leaks promptly using absorbents or other effective methods to prevent discharge of pollutants and use spill/overflow protection equipment;
    ii. Store all hazardous substances (see Schedule D.3, Definitions), petroleum/oil liquids, and other chemical solid or chemical liquid materials that have potential to contaminate stormwater within berms or other secondary containment devices to prevent leaks and spills. If the use of berms or secondary containment devices is not practicable, then store such substances in areas that do not drain off-site or into the storm sewer system;
    iii. Plainly label containers to encourage proper handling and facilitate proper response if spills or leaks occur as required by local, state and federal rules;
    iv. Implement preventative measures, such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
    v. Develop procedures for expeditiously stopping, containing, and cleaning up leaks, spills and other releases. Make the methods and procedures available to appropriate personnel. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures. Have the necessary clean-up material on-site and readily available; and
    vi. Procedures for notification of appropriate facility personnel, DEQ or agent, and the Oregon Emergency Response System (1-800-452-0311), when a spill may endanger health or the environment. Contact information must be in locations that are readily accessible and available.
i. Preventative Maintenance - Regularly inspect, clean, maintain, and repair all industrial equipment and systems and materials handling and storage areas that are exposed to stormwater to avoid situations that may result in leaks, spills, and other potential releases of pollutants discharged to receiving waters. Clean, maintain and repair all control measures, including stormwater structures and temporary measures, catch basins, and treatment facilities to ensure effective operation as designed and in a manner that prevents the discharge of pollution.
j. Employee Education - Develop and maintain an employee orientation and education program to inform personnel of the pertinent components and goals of this permit and the SWPCP.
    i. Training must cover:

(1) Specific control measures used to achieve the narrative technology-based effluent limits, such as spill response procedures and good housekeeping practices, and
(2) Monitoring, inspection, reporting and documentation requirements.

ii. The permit registrant must ensure that the following personnel are trained and understand the facility's specific requirements and their responsibilities:
(1) Personnel who are responsible for the design, installation, maintenance, or repair of controls including, pollution prevention and treatment measures;
(2) Personnel responsible for the storage and handling of chemicals and materials that could contribute pollutants to stormwater;
(3) Personnel who are responsible for conducting or documenting monitoring or inspections as required in Schedule B; and
(4) Personnel who are responsible for conducting and documenting corrective actions.

iii. Education and training must be documented and must occur:
(1) No later than 30 calendar days after hiring an employee who works in areas where stormwater is exposed to industrial activities or conducts duties related to the implementation of the SWPCP;
(2) No later than 30 calendar days after change in duties for key personnel in Schedule A.1.j.ii; and
(3) Annually thereafter.

iv. Education and training must be documented and include which specific employees received training. A log of training dates must kept on-site and submitted to DEQ or agent upon request.

k. Non-Stormwater Discharges - Eliminate any non-stormwater discharges not authorized by a NPDES permit (see Condition I.6 for a list of authorized non-stormwater discharges).

2. Control Measures for Numeric and Narrative Technology-based Effluent Limits

a. The permit registrant must select, design, install, implement and maintain control measures, including all best management practices (BMPs), to meet the narrative technology-based effluent limits in Schedule A.1, and Schedule E, and numeric technology-based effluent limitations guidelines in Schedule B.1 of this permit. The permit registrant must describe these measures, maintenance schedules and frequency of housekeeping measures in the SWPCP.

b. For narrative and numeric technology-based effluent limits that require the permit registrant to minimize pollutants in the discharge, the permit registrant must reduce or eliminate pollutants to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. The term "minimize" is defined in Schedule D.3.

c. In selecting the appropriate control measures to meet these limits, the permit registrant may consider the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, the pollutant reductions likely to be achieved, any adverse environmental or energy effects of potential measures, and the costs of achieving pollutant reductions.

d. The permit registrant must install, implement and maintain the control measures in accordance with good engineering practices and manufacturers' specifications. Any deviation from the manufacturers' specifications must be explained in the SWPCP.

e. DEQ or agent may require the permit registrant to take corrective actions to meet the narrative technology-based effluent limits in Schedule A.1 and Schedule E of this permit. Failure to implement any narrative technology-based effluent limits in Schedule A.1 and Schedule E, and other control measures or operational practices described in the SWPCP is a permit violation.
f. If modifications to the control measures are necessary to meet technology-based effluent limits in this permit, the permit registrant must implement the modifications before the next storm event if practicable or no later than 30 calendar days from discovering the violation, unless DEQ or agent approve a later date.

WATER QUALITY-BASED EFFLUENT LIMITATIONS

3. Water Quality Standards

a. The permit registrant must not cause or contribute to an exceedance of instream water quality standards as established in OAR 340-041.
b. If at any time the permit registrant discovers, or DEQ or agent determines, that the discharge causes or contributes to an exceedance of instream water quality standards, the permit registrant must take the following corrective actions:
   i. No later than 24-hours after the discovery or being informed of the determination by DEQ:
      (1) Investigate the conditions that caused or contributed to the exceedance; and
      (2) Review the SWPCP and the selection, design, installation and implementation of control measures to ensure compliance with this permit.
   ii. No later than 30 calendar days after the discovery or determination, submit a Water Quality Standards Report to DEQ or agent that documents the following:
      (1) The results of the permit registrant's investigation, including the date the exceedance was discovered and a brief description of the conditions that caused or contributed to the exceedance;
      (2) Corrective actions taken or planned to be taken, including the date the corrective action was completed or is expected to be completed; and
      (3) If the permit registrant determines that SWPCP revisions are necessary based on the investigation, the permit registrant must submit a revised SWPCP to DEQ or agent with the Water Quality Standards Report.
   iii. The permit registrant must implement the corrective action before the next storm event, if possible, or no later than 30 calendar days after discovery or determination, whichever comes first unless DEQ or agent approved a later date.
c. If information in the application, required reports, or from other sources indicates that the discharge has caused or contributed to an exceedance of water quality standards, either in the receiving waterbody or a downstream waterbody, DEQ will notify the permit registrant if any of the following are necessary:
   i. Additional monitoring and site controls;
   ii. A compliance schedule with a deadline for correcting the violation; or
   iii. Permit revocation under this general permit, and require the permit registrant to obtain coverage under an individual permit.

d. If DEQ or agent determines that additional site-specific requirements are necessary, the permit registrant must revise the SWPCP. DEQ will hold a 30 calendar day public notice period on the revised SWPCP.

4. Discharges to Impaired Waters

a. Existing discharger to an impaired water without a TMDL based on EPA-approved Category 5: 303(d) list that is in effect at the time of permit assignment must comply with Schedule A.3 and:
   i. The permit registrant that have complied with Condition I.1.a or b must implement and maintain any control measures or conditions on the site that enabled the permit registrant to become eligible for permit coverage. The permit registrant must modify such measures or conditions as necessary pursuant to Schedule A.2 and schedules outlined in the SWPCP.
   ii. The permit registrant must comply with impairment pollutant monitoring in accordance with Schedules B.3, B.4 and B.5 and additional monitoring established by DEQ or agent. When the discharge enters an impaired watershed unit, the listing will only be applied if there is a hydrologic connection between the receiving water and assessment water body causing the impairment.
   iii. Impairment monitoring results of qualifying sample that exceed impairment monitoring concentrations in Table 5 and Table 5A, as required by Schedules B.3, B.4 and B.5 may be used in conjunction with other relevant information to determine an exceedance of water quality standards.

b. Existing Discharger to an impaired water with a TMDL (based on EPA-approved TMDLs as of March 31, 2021) must comply with Schedule A.3 and:
   i. Must comply with all applicable requirements of TMDLs with wasteload allocations for industrial stormwater discharges.
   ii. If DEQ or agent determines that additional site-specific requirements are necessary, the permit registrant must revise the SWPCP. DEQ will hold a 30 calendar day public notice period on the revised SWPCP.

STORMWATER DISCHARGE

5. Statewide and Sector-Specific Benchmarks

a. Benchmarks are screening concentrations, not numeric effluent limits. A benchmark exceedance, therefore, is not a permit violation, but failing to take the required corrective action is a permit violation.

b. The permit registrant must determine whether site controls are effectively reducing pollutant concentrations in stormwater discharges, or if maintenance or implementation of additional controls is necessary when a benchmark is exceeded.

6. Mass Reduction Measures Certification

a. For mass reduction measures installed during previous permit cycles in response to an approved Tier 2 mass reduction waiver that reduced the mass of the pollutants discharged at or above DEQ-approved design storm capacity, the permit registrant must submit to DEQ or agent an evaluation that is certified by an Oregon registered professional engineer (PE) or Oregon certified

engineering geologist (CEG) stamp of the following information, as applicable, to validate the system is operating as intended:

i. Proper installation and maintenance specifications as originally designed;
ii. Infiltration testing or other demonstrations to confirm intended performance metrics;
iii. Confirmation that operation and maintenance specifications have been performed;
iv. Information concerning drawdown;
v. Whether any corrective actions are needed; and
vi. Estimated design life expectancy of the system and any plan to rejuvenate or replace measures.

b. The permit registrant must submit the mass reduction measures stamped certification to DEQ or agent by December 31, 2021, unless DEQ or agent approve a later date.
c. The permit registrant must provide DEQ or agent with operation and maintenance records upon request and meet all maintenance schedules specified in the stamped certification.
d. If the stamped certification includes corrective action, the permit registrant must complete corrective action by September 30, 2022.
e. For mass reduction measures installed during previous permit cycles that reduced the mass of the pollutants discharged at or above DEQ-approved design storm capacity not in response to Tier 2 mass reduction waiver, the permit registrant must meet Schedule A.6.a-d and submit, retroactively, to DEQ or agent a Tier 2 mass reduction waiver checklist.
f. DEQ or agent will notify the permit registrant within 60 calendar days from receipt if mass reduction measures certification is approved or denied.

7. Effluent Limitations

a. An exceedance of an applicable numeric effluent limit is a permit violation. See Schedule A.13, B.7.g and B.15.
b. Numeric effluent limits are established as follows:
   i. Numeric technology-based effluent limits based on industrial activities in Table 3, Schedule B.1 applicable to concentrations in Schedule E promulgated by EPA's effluent limitation guidelines under federal regulations 40 CFR, Subchapter N.
   ii. Numeric water quality-based effluent limits will apply to facilities:
      (1) Based on discharges to Category 5: 303(d) list in effect at the time of permit assignment for pH, copper, lead, and zinc that correspond to the specific pollutant(s) for which the water body is impaired in response to monitoring results in accordance Schedule A.13.e; and
      (2) Established by wasteload allocations in a TMDL as identified by DEQ or agent.
c. Narrative water quality-based effluent limits are established as follows:
   i. Based on discharges to Category 5: 303(d) list in effect at the time of permit assignment for E. coli and iron that correspond to the specific pollutant(s) for which the water body is impaired in response to monitoring results in accordance Schedule A.13.i and j.

STORMWATER POLLUTION CONTROL PLAN

8. Preparation and Implementation of SWPCP

a. The SWPCP must be prepared by a person knowledgeable in stormwater management and familiar with the facility.

b. The SWPCP must be signed and certified in accordance with 40 CFR §122.22.
c. In accordance with Schedule A.2, the SWPCP must include control measures/BMPs that implement each narrative technology-based effluent limit to eliminate or reduce the potential to contaminate stormwater and prevent exceedance of instream water quality standards.
d. The permit registrant must implement the SWPCP and any revisions to the plan. Failure to implement any narrative technology-based effluent limits, other control measures or operational practices described in the SWPCP is a violation of this permit.
e. If the permit registrant fails to implement the control measures in the SWPCP, the permit registrant must take corrective actions and implement the measures before the next storm event if practicable or no later than 30 calendar days after the discovery, unless a later date is approved by DEQ or agent.
f. The permit registrant must keep the SWPCP current and revise it as necessary to reflect current site conditions and changes to the site.

9. SWPCP Revisions

a. The Permit registrant must prepare SWPCP revisions in compliance with Schedule A.8.a-c.
b. The permit registrant must submit SWPCP revisions to DEQ or agent for the following reasons:
   i. Change in site contact(s);
   ii. In response to a corrective action or inspection;
   iii. Changes to the site, operations or control measures that may significantly change the nature of pollutants present in stormwater discharge; or significantly increase the pollutant(s) levels, discharge frequency, discharge volume or flow rate;
   iv. Changes to the monitoring points; or
   v. Changes to discharge points.
c. Change to site contact must be made through the web-based electronic system when available, except for facilities located in agents' jurisdictions, until directed by DEQ or agent.
d. Review of the revisions by DEQ or agent prior to implementation is not required, unless there is a change to the location of monitoring points. The permit registrant may not change monitoring points until DEQ or agent have approved the SWPCP revision.
e. DEQ or agent may require the permit registrant to revise the SWPCP at any time. The permit registrant must submit revisions through the web-based electronic system, when directed by DEQ, no later than 30 calendar days from the request date or the change to the facility, unless DEQ or agent approved a later date.
f. The proposed revisions are deemed accepted after 30 calendar days after receipt unless the permit registrant receives a response from DEQ or agent.
g. SWPCP revisions are not subject to public notice unless revisions are in response to Condition I.3.c and when the SWPCP revisions include additional site-specific requirements in response to a Water Quality Standard Report in accordance with Schedule A.3 or an EPA-approved TMDL as of March 31, 2021, in accordance with Schedule A.4.b of this permit.
h. For Tier 2 SWPCP revision submittal requirements, refer to Schedule A.12.

10. Required Elements

The SWPCP, at a minimum, must include the components below and describe how the permit registrant intends to comply with the narrative technology-based effluent limits in Schedule A.1 and

eliminate or reduce the potential to contaminate stormwater and prevent any exceedance of instream water quality standards.

a. Title Page - The title page of the SWPCP must contain the following information:
   i. Plan date;
   ii. Name of the site;
   iii. Name of the site operator or owner;
   iv. The name of the person(s) preparing the SWPCP;
   v. File number and EPA permit number as indicated in permit coverage documents;
   vi. Primary SIC code and any co-located SIC codes;
   vii. Contact person(s) name, telephone number and email; and
   viii. Physical address, including county, and mailing address if different.

b. Site Description - The SWPCP must contain the following information, including any applicable information required in Schedule E of the permit:
   i. Site map(s) including the following, labeled clearly:
      (1) general location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features;
      (2) drainage patterns, with flow arrows;
      (3) conveyance and discharge structures, such as piping or ditches;
      (4) exact location of all monitoring points, labelled with a unique three-digit identifying number starting with 001, 002, etc. used for web-based electronic reporting and indicate "monitoring point;"
      (5) outline of the drainage area for each discharge point;
      (6) paved areas and buildings within each drainage area;
      (7) locations of discharge points if different from monitoring points;
      (8) areas used for outdoor manufacturing, treatment, storage, or disposal of significant materials;
      (9) areas known or discovered significant materials from previous operations;
      (10) existing structural control measures for minimizing pollutants in stormwater runoff;
      (11) structural features that reduce flow or minimize impervious areas;
      (12) material handling and access areas;
      (13) hazardous waste treatment, storage and disposal facilities;
      (14) location of wells including waste injection wells, seepage pits, drywells;
      (15) location of springs, wetlands and other surface waterbodies both on-site and adjacent to the site;
      (16) location of groundwater wells;
      (17) location and description of authorized non-stormwater discharges;
      (18) location and description of spill prevention and cleanup materials; and
      (19) locations of the following materials and activities if they are exposed to stormwater and applicable:
         A. fueling stations;
         B. vehicle and equipment maintenance cleaning areas;
         C. loading/unloading areas;
         D. locations used for the treatment, storage, or disposal of wastes;
         E. liquid storage tanks;

F. processing and storage areas;
G. immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
H. transfer areas for substances in bulk;
I. machinery; and
J. locations and sources of run-on to your site from adjacent property.

ii. A description of industrial activities conducted at the site and significant materials stored, used, treated or disposed of in a manner which exposes those activities or materials to stormwater. Include in the description the methods of storage, usage, treatment or disposal.
iii. Location and description, with any available characterization data, of areas of known or discovered significant materials from previous operations.
iv. Regular business hours of operation.
v. For each area of the site where a reasonable potential exists for contributing pollutants to stormwater runoff, a description of the potential pollutant sources that could be present in stormwater discharges and if the source is associated with a co-located SIC code.
vi. A description of control measures installed and implemented to meet the technology and water quality-based requirements in Schedule A.1 –A.4, Schedule A.13 and any applicable sector-specific requirements in Schedule E of this permit. Include a description of how the stormwater control measures address potential pollutant sources from industrial activities and significant materials on-site, spills and leaks and authorized non-stormwater discharges. Include known maintenance schedules and frequency of housekeeping measures.
vii. A description of stormwater treatment controls or source controls, including low impact development, in response to corrective action requirements and operation and maintenance procedures. Include safety data sheets for any stormwater treatment chemicals or substances used in stormwater treatment and stored on site.
viii. An estimate of the amount of impervious surface area (including paved areas and building roofs) and the total area drained by each stormwater discharge point to be reported in area units.
ix. The name(s) of the receiving water(s), latitude and longitude of discharge point(s), and applicable SIC code, if facility has co-located operations. If discharge point is to a municipal storm sewer system, the name(s) and latitude and longitude of the receiving waters and the name of the municipality.
x. The identification of each discharge point and the location(s) where stormwater monitoring will occur as required by Schedule B.6. The monitoring point must also be labeled in the on the site map as "monitoring point." Existing discharge points excluded from monitoring must include a description of the discharge point(s) and data or analysis supporting that the discharge point(s) are substantially similar as described in Schedule B.7.c.ii of this permit.

c. Procedures and Schedules -The SWPCP must contain the following information to meet the narrative technology-based effluent limits in Schedule A.1 of this permit:
i. Spill Prevention and Response - Procedures for preventing and responding to spills and clean-up, documentation and notification procedures. Indicate who is responsible for on-site management of significant materials and include their contact information. Spills prevention plans required by other regulations may be substituted for this provision if the spill prevention plan addresses stormwater management concerns and the plan is included with the SWPCP.

Otherwise the SWPCP must contain all spill prevention and response procedures, schedules and documentation requirements in Schedule A.1.

(1) Indicate how spill response will be coordinated between the permit registrant and otherwise unpermitted tenants. The permit registrant is ultimately responsible for spills of tenant and appropriate response.

d. Preventative maintenance - Procedures for conducting inspections, maintenance and repairs to prevent leaks, spills, and other releases from drums, tanks and containers exposed to stormwater and the scheduled regular pickup and disposal of waste materials. Include the schedule or frequency for maintaining all control measures and waste collection.

e. Operation and Maintenance Plans - Include an operation and maintenance plan for active and passive treatment systems and mass reduction measures. The O&M plan must include, as appropriate to the type of treatment system, items such as system schematic, manufacturer's maintenance/operation specifications, chemical use, treatment volumes and a monitoring or inspection plan and frequency. For passive treatment and low impact development control measures, such as mass reduction measures, include routine maintenance standards.

f. Employee Education - The elements of the training program must include the requirements in Schedule A.1.j. Include a description of the training content and the required frequency.

BENCHMARK EXCEEDANCES AND VISUAL OBSERVATION CORRECTIVE ACTIONS

11. Tier 1 Corrective Action Response based on Exceedances of Benchmarks and Visual Observations that Show Signs of Pollution

a. If any of the triggering events occur, the permit registrant must complete the Tier 1 corrective actions below.

b. Triggering events include:

i. If qualifying sample results exceed any applicable statewide benchmark(s) in Table 4 of this permit or any sector-specific benchmarks in Schedule E; or

ii. Visual observations that show signs of pollution in the discharge as specified in Schedule B.12.a.vii.

c. Tier 1 corrective action and reporting must include:

i. Investigate the cause of the elevated pollutant levels, including conducting, commencing or planning for any needed pollutant source tracing activities. Ensure that known or discovered significant materials from previous operations are controlled, removed or otherwise not exposed.

ii. Review the SWPCP to ensure it is implemented; evaluate selection, design, installation and implementation of control measures for compliance with this permit and manufacturers' specifications. Evaluate whether any previous pollutant source isolation actions are complete and whether additional modifications are necessary.

iii. Evaluate any treatment measures, infiltration devices and mass reduction measures, including if they were properly installed, maintained and implemented and whether maintenance, corrections, or modifications are necessary.

iv. Tier 1 corrective action response(s) must be assessed and implemented at all substantially similar discharge points.

v. Tier 1 report - Summarize the following information in a Tier 1 report:

(1) The results of the site the assessment in Schedule A.11.c.i-iii.

(2) Corrective actions taken or planned to be taken, including date corrective action completed or expected to be completed. Where the permit registrant determines that corrective action is not necessary, provide the basis for this determination.

(3) Document whether SWPCP revisions are necessary.

vi. Tier 1 corrective action response may include documentation and implementation of industrial-specific checklists as provided by DEQ (see DEQ's industrial stormwater permits webpage for resources regarding source and operations controls, including the industrial-specific checklists), in addition to a Tier 1 report.

vii. The permit registrant must keep Tier 1 reports and industrial-specific checklists on site, and copies provided to DEQ or agent upon request.

d. Deadlines:

i. Implement Tier 1 corrective actions before the next storm event, if possible, or no later than 30 calendar days after receiving the monitoring results or completing the monthly visual inspection, whichever comes first. If the permit registrant fails to complete the corrective action within this timeframe, an explanation must be documented in the Tier 1 Report, and corrective actions must be completed as soon as practicable.

ii. Submit revised SWPCP in accordance with Schedule A.9., as needed.

e. Exemptions:
   i. Permit registrants subject to Tier 2 corrective action response, prior to completion of Tier 2, a Tier 1 corrective action response is not required when monitoring results exceed the benchmark for the same pollutant and monitoring point.
   ii. If stormwater monitoring results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity exceed benchmarks, the permit registrant is not required to complete a Tier 1 corrective action.

12. Tier 2 Corrective Action Response based on Geometric Mean Benchmark Evaluation:

a. Permit registrants subject to a Tier 2 installation deadline of June 30, 2021, or later in response to a Tier 2 corrective action response triggered under the previous permit, are not required to conduct Tier 2 evaluation for the same pollutant(s) and monitoring point(s) during this permit cycle.
b. Once a monitoring point triggers Tier 2 corrective action response for a pollutant, in subsequent full reporting years a Tier 2 geometric mean evaluation and Tier 2 corrective action response are not required more for the same pollutant(s) and monitoring point(s).
c. The permit registrant must use all qualifying samples collected during the full reporting year to calculate the geometric mean, except sample results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity.
d. If any of the triggering events occur, the permit registrant must complete the Tier 2 corrective actions below.
e. Triggering events include:
   i. The geometric mean of qualifying sample results collected at any monitoring point exceeds any applicable statewide benchmark(s) in Table 4, during each full reporting year (see Schedule D.3, Definitions).
   ii. For the pH benchmark, if 50 percent or more of qualifying sample results collected at any monitoring point during two full reporting years, are outside of the pH benchmark range.
f. Corrective action and Reporting must include:
   i. The permit registrant must submit a SWPCP appendix including: Tier 2 report, a Tier 2 mass reduction waiver request, or a Tier 2 background waiver request as described below.
   ii. Properly apply and size approved Tier 2 corrective action responses and mass reduction measures to all substantially similar discharge points.
   iii. Tier 2 Report
      (1) The Tier 2 report must include a proposal for active or passive treatment. This may include a combination of source removal, control and treatment measures, with the goal of achieving the benchmark(s) in this permit. The report must include the rationale for the selection of the control and treatment measures, the projected reduction of pollutant concentration(s) and the schedule for implementing these measures.
      (2) An Oregon registered professional engineer (PE) must design and stamp the portion of the SWPCP that addresses these control measures.
g. At discharge points where Tier 2 has been implemented:
   i. The permit registrant must take Tier 1 corrective actions in accordance with Schedule A.11.

ii. The permit registrant must sample substantially similar discharge points for the parameters that triggered Tier 2. For exceptionally large facilities where sampling at all substantially similar discharge points are infeasible, DEQ or agent may approve a modification.
iii. The permit registrant may request a monitoring waiver if the geometric mean of five consecutive qualifying sample results collected at any monitoring point is equal to or below the benchmark.

h. Exemptions:
i. Tier 2 Mass Reduction Waiver
(1) The permit registrant may request an exemption from the requirements in Schedule A.12.f.iii above by submitting a mass reduction waiver request if the permit registrant implements or has implemented volume reduction measures, such as low impact development practices, that will or has resulted in reductions of the mass load of pollutants in the discharge below the mass equivalent of the applicable statewide benchmark(s) in Table 4 of this permit.
(2) The mass reduction waiver request and the revised SWPCP must include data and analysis to support the rationale for the mass load reduction selection. The mass reduction waiver request must include a description of the measure(s), and a mass load analysis, and expected implementation date(s).
(3) An Oregon Professional Engineer (PE) or Oregon certified engineering geologist (CEG) must design and stamp the portion of the SWPCP that addresses the mass reduction measures.
ii. Tier 2 Background Waiver
(1) The permit registrant may request a background waiver exemption from the requirements in Schedule A.12.f.iii and A.12.h.i above if the permit registrant can sufficiently demonstrate the benchmark exceedance(s) is attributed solely to the presence of the pollutant(s) in natural background and is not associated with industrial activities at the site (see Schedule D.3, Definitions).
(2) The background waiver request must include the supporting rationale and any data collected by the facility or others (including peer-reviewed literature studies) which is used to demonstrate that the exceedances are due solely to background conditions that describe and quantify the levels of background pollutants in the discharge.

i. Deadlines:
i. The permit registrant must submit a proposed Tier 2 corrective action response to DEQ or agent no later than December 31 (six months after the end of the full reporting year that triggered Tier 2) unless DEQ or agent approved a later date.
ii. DEQ or agent will notify the permit registrant within 60 calendar days of receipt if Tier 2 corrective action is approved or denied.
iii. Tier 2 corrective action(s) or mass reduction measures(s) must be installed and implemented no later than September 30 (a year and nine months after the Tier 2 proposal corrective action response submittal deadline) unless DEQ or agent approved a later date. If the permit registrant changes the specifics of the corrective actions before implementation, revisions must be submitted and approved by DEQ or agent before implementation. Corrective action revisions do not change the Tier 2 implementation deadline.

iv. No later than 30 calendar days from implementing Tier 2 corrective actions or mass reduction measures, the permit registrant must inform DEQ or agent of the date of completion. This notification requirement also applies to facilities with an implementation deadline established in the previous permit.
v. No later than 30 calendar days from implementing all Tier 2 corrective actions or mass reduction measures, the permit registrant must submit all new and modified control measures and any associated changes to monitoring or discharge points within a SWPCP revision.

CATEGORY 5: 303(d) LIST IMPAIRMENT EXCEEDANCE RESPONSE

13. Water Quality-based Effluent Limits

a. The permit registrant must comply with water quality-based effluent limits for discharges to impaired receiving waters based on the EPA-approved Category 5: 303(d) list in effect at the time of permit assignment for pH, copper, lead, zinc, iron and E. coli that correspond to the specific pollutant(s) for which the water body is impaired when monitoring results trigger the events specified below.
b. The permit registrant must use all qualifying samples except sample results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity.
c. For E. coli and iron, if the triggering events occur, the permit registrant must comply with narrative water quality-based effluent limits.
d. For pH, copper, lead and zinc, if the triggering events occur, the permit registrant must comply with numeric water quality-based effluent limits at the pollutant concentrations in Table 5 as required by Schedule B.3.
e. Triggering events for pH, copper, lead and zinc:
   i. If two consecutive qualifying sample results collected at any monitoring point falls outside the basin-specific range for pH in Appendix A as required by Schedule B.3 at each monitoring point subject to impairment monitoring for which the water body is impaired for pH.
   ii. If two consecutive qualifying sample results collected at any monitoring point exceed the impairment concentrations for copper, lead, or zinc in Table 5, as required by Schedule B.3 subject to impairment monitoring.
   iii. If a qualifying sample result collected at any monitoring point is greater than two times the impairment concentrations in Table 5, as required by Schedule B.3 for copper, lead, or zinc subject to impairment monitoring.
f. When the impairment monitoring as required by Schedule B.3 escalates to a numeric water quality-based effluent limit based on triggering events above in Schedule A.13.e, the permit registrants must notify DEQ or agent no later than 30 calendar days from receiving the monitoring results. At such time, permit registrant may request up to a two-year compliance schedule in accordance with Schedule C.
g. The permit registrants must sample all discharge points subject to numeric water quality-based effluent limit, including those previously designated as substantially similar.
h. Permit registrants that discharge into Category 5: 303(d) listed receiving waters for fecal coliform or enterococcus must monitor stormwater discharge that correspond to the specific pollutant and report as specified in Table 6 and Table 7 applicable to impairment pollutants. DEQ may require

additional narrative water quality-based effluent limits if a public health risk is identified from the discharge.

i. Triggering event for E. coli:
   i. If two consecutive qualifying sample results collected at any monitoring point exceeds the impairment concentration for E. coli in Table 5A, as required in Schedule B.4 subject to impairment monitoring, the permit registrant must implement the following narrative water quality-based effluent limits:
      (1) Prevent rodents, birds, and other animals from feeding/nesting/roosting at the facility to the degree practicable. Nothing in this section shall be construed as allowing violations of any applicable federal, state or local statutes, ordinances, or regulations including the Migratory Bird Treaty Act;
      (2) Clean storm sewer lines, including catch basins, annually. Frequency of cleaning may be reduced, or decreased to catch basins, only after the first annual cleaning if the source of the E. coli exceedances are identified and the storm sewer lines are determined to not be a contributing factor. Flushed water and solids must be disposed of properly and not allowed to discharge;
      (3) If the source of the exceedances is not readily identified, perform a one-time dry weather inspection to identify and eliminate any sanitary sewer cross-connections or leaky sewer pipes;
      (4) Investigate and document any human dwelling encampments;
      (5) Install additional source or operational controls to address known sources of fecal contamination such as green waste, illegal dumping, dumpsters or garbage trucks and grease bins, and portable toilets as applicable; and if applicable,
      (6) Conduct and report biochemical speciation identification results to indicate non-fecal discharges.

j. Triggering event for iron:
   i. If two consecutive qualifying sample results collected at any monitoring point exceeds impairment concentration for iron in Table 5A, as required by Schedule B.4 subject to impairment monitoring, the permit registrant must implement the following narrative water quality-based effluent limits:
      (1) Demonstrate compliance with the erosion and sediment control narrative technology-based effluent limit in Schedule A.1.d. and stabilize all exposed soils that have potential to discharge;
      (2) Implement sweeping or other equivalent methods of cleaning sufficient to minimize the discharge of sediment and debris, but in no case less than once per calendar quarter when industrial activity has occurred at the site;
      (3) Clean storm sewer lines, including catch basins, annually. Frequency of cleaning may be reduced or decreased to catch basins only after the first annual cleaning if the source of the iron exceedances are identified and the storm sewer lines are determined to not be a contributing factor. Flushed water and solids must be disposed of properly and not allowed to discharge; and
      (4) Install additional source and operational controls to the extent practicable to address known sources of iron pollution such as permanent structures by removing, replacing or sealing corroding metal.

k. The permit registrant must complete the narrative water quality-based effluent limits no later than 90 calendar days from receiving monitoring results of the triggering event above in Schedule A.13.h and i and continue as required. SWPCP revisions documenting completion are required as specified in Schedule A.9.

l. If the permit registrant is unable to comply with the numeric or narrative water quality-based effluent limits, it is a permit violation and permit coverage may be revoked under this general permit and coverage required under an individual permit.

PERMIT COMPLIANCE

14. Authorization Under This Permit

a. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act and Oregon Revised Statues (ORS) 468B.025(2).

b. Corrective actions and compliance within the time periods specified for remedying noncompliance with the permit do not absolve the permit registrant of the initial underlying violations.

c. Where corrective action is triggered by an event that does not itself constitute a violation, such as a benchmark exceedance, there is no permit violation associated with the triggering event provided that the permit registrant must take the corrective action within the deadlines identified in this permit.

d. A new permit registrant with a new facility or an existing facility without a stormwater discharge permit must implement stormwater control measures to meet new technology and water quality-based requirements in Schedule A.1 – A.4, including applicable sector-specific requirements in Schedule E of this permit, no later than 90 calendar days after receiving permit coverage. Control measures that require capital improvements must be completed no later than two years after receiving permit coverage, unless DEQ or agent approved a later date.

e. The permit registrant must complete corrective action associated with monitoring exceedances.

SCHEDULE B

MONITORING REQUIREMENTS

1. **Numeric Effluent Limitations Based on Effluent Limitations Guidelines:** Permit registrants that engage in a "regulated activity" described in Table 3 below must monitor stormwater discharges for numeric technology-based effluent limits in accordance with concentrations in Schedule E. Numeric technology-based effluent limits are based on Industry-specific stormwater effluent limitations guidelines as established by EPA.

Table 3: Numeric Effluent Limitations Based on Effluent Limitations Guidelines

Regulated Activity	40 CFR Part/Subpart	Effluent Limit
Discharge from asphalt emulsion facilities (co-located SIC code only, 2951 covered under the 1200-A)	Part 443, Subpart A	See Schedule E.D.2
Discharge from material storage piles at cement manufacturing facilities	Part 411, Subpart C	See Schedule E.E.5
Discharge from hazardous waste landfills	Part 445, Subpart A	See Schedule E.K.3
Discharge from non-hazardous waste landfills	Part 445, Subpart B	See Schedule E.L.7
Discharge from coal storage piles at steam electric generating facilities	Part 423, Subpart E	See Schedule E.O.5
Discharge containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449, Subpart S	See Schedule E.S.7

2. **Statewide Benchmarks:** The permit registrant must monitor stormwater discharges for the benchmarks in Table 4. In addition permit registrants must monitor for any sector-specific benchmarks in Schedule E. See Schedule B.7.c for exceptions.

Table 4: Statewide Benchmarks

Georegion	pH s.u.	Total Copper mg/L	Total Lead mg/L	Total Zinc mg/L	TSS mg/L	BOD mg/L	Total Phosphorus mg/L	E. coli organism/100 mL
Columbia Slough	5.5-9.0	0.017[2]	0.10[2]	0.24[2]	30	24	0.16	406[1]
Portland Harbor	5.5-9.0	0.015[2]	0.24[2]	0.24[2]	30			
Cascades	5.5-9.0	0.016	0.018	0.068	100			
Coastal	5.5-9.0	0.017	0.039[2]	0.086	100			
Columbia River Mainstem	6.0-9.0	0.023	0.21	0.35	100			
Eastern	5.5-9.0	0.031	0.077[2]	0.16	100			

Georegion	pH s.u.	Total Copper mg/L	Total Lead mg/L	Total Zinc mg/L	TSS mg/L	BOD mg/L	Total Phosphorus mg/L	E. coli organism/100 mL
Willamette Valley	5.5-9.0	0.015[2]	0.11[2]	0.14[2]	100			
Marine Waters	6.0-9.0	0.025	1.10	0.46	100			

[1]Columbia Slough dischargers are only subject to benchmark monitoring, no impairment monitoring
[2]Applied regional translators

3. **Discharges into Category 5: 303(d) listed waters for pH, copper, lead and zinc:** The permit registrant must monitor for pH, total copper, total lead and total zinc at all discharge points into impaired receiving waters that correspond to the specific pollutant(s) for which the water body is impaired. For discharges unable to meet the impairment concentrations for pH, total copper, total lead and total zinc monitoring requirements escalate to a numeric water quality-based effluent limit equal to the impairment monitoring concentrations. See Schedule A.13.e and Schedule C.

Table 5: Impairment Monitoring Concentrations and Numeric Water Quality-based Effluent Limits

Georegion	Total Copper mg/L	Total Lead mg/L	Total Zinc mg/L	pH s.u.
Columbia Slough	0.017[2]	0.017[2]	0.042[2]	Basin-Specific[1]
Portland Harbor	0.015[2]	0.017[2]	0.041[2]	
Cascades	0.016	0.006	0.021	
Coastal	0.017	0.017[2]	0.043	
Columbia River Mainstem	0.023	0.046	0.082	
Eastern	0.031	0.037[2]	0.070	
Willamette Valley	0.015[2]	0.027[2]	0.057[2]	
Marine Waters	0.0058	0.22	0.095	

[1]See Appendix A for basin-specific pH concentrations
[2]Applied regional translators

4. **Discharges into Category 5: 303(d) listed waters for E. coli and iron:** The permit registrant must monitor for E. coli and total iron at all discharge points into impaired receiving waters that correspond with the specific pollutant for which the water body is impaired. For discharges unable to meet the impairment concentrations for E. coli and total iron in accordance with Schedule A.13.h.i, the permit registrant must comply with narrative water quality-based effluent limits and continue monitoring discharge. Discharges into the Columbia Slough are not be subject to E. coli impairment monitoring.

Table 5A: Impairment Monitoring Concentrations

Impairment Pollutant	Impairment Concentrations
E. coli	406 organisms/100 mL
Total iron	10 mg/L

5. **Discharges into Category 5: 303(d) listed Receiving Waters for Fecal Coliform and Enterococcus:** The permit registrant must monitor for fecal coliform and enterococcus at all discharge points that correspond to the specific pollutant for which the water is impaired. There are no established impairment monitoring concentrations.

6. Pollutant Parameters

a. Benchmarks

i. The permit registrant must monitor for the applicable statewide benchmark pollutants identified in Table 4 of this permit. The permit registrant must also monitor for benchmarks identified in Schedule E for applicable industrial sector(s), for both primary industrial activity and any co-located industrial activities.

ii. If a discharge point is subject to a statewide benchmark(s) for the same parameter that also has a benchmark(s) in Schedule E, the statewide benchmark concentrations are applied as the target concentration.

iii. If discharge point is into the Pacific Ocean and a saltwater benchmark is established in Table 4 or Schedule E, the saltwater benchmark will be applied as the target concentration. For dischargers into estuarine waters, the more stringent benchmark between the freshwater and saltwater benchmarks are applied as the target concentration.

iv. When assigning coverage under the permit, DEQ or agent will specify and communicate benchmark monitoring requirements to the permit registrant.

b. Impairment Pollutants

i. The permit registrant must monitor for pH, total copper, total lead, total zinc, total iron and fecal indicator bacteria: E. coli, fecal coliform and enterococcus, pollutant(s) based on discharge into Category 5: 303(d) listed receiving waters that correspond to the specific pollutant(s) for which the water body is impaired.

ii. DEQ or agent will notify the permit registrant of additional impairment monitoring and the specific concentrations if required, based on new listings in the current EPA-approved Category 5: 303(d) list in effect at the time of permit assignment.

iii. For discharge point(s) required to monitor for impairments as required by Schedule B.3 and B.4 for a pollutant that has a benchmark, the permit registrant will not be subject to benchmark monitoring.

iv. DEQ or agent will specify and communicate impairment pollutant(s) monitoring requirement to the permit registrant.

(1) If the pollutant for which the waterbody is impaired is expressed in the form of an indicator or surrogate pollutant, the permit registrant must monitor for that indicator or surrogate pollutant.

(2) No monitoring is required for biological communities (biocriteria), including harmful algal blooms and aquatic weeds, where no pollutant including indicator or surrogate pollutants, is specified as causing the impairment; or temperature, or habitat and flow modifications.

v. The permit registrant must meet Schedule B.6.b.i unless the permit registrant provides monitoring data demonstrating that the pollutant(s) for which the waterbody is impaired are not present in the discharge.

c. Numeric Effluent Limits

i. DEQ or agent will specify and communicate monitoring requirements applicable to numeric effluent limit(s) to the permit registrant.

ii. For discharge point(s) required to monitor for a numeric water quality-based effluent limit, the permit registrant will not be subject to benchmark monitoring for the same pollutant.

iii. The permit registrant may not reduce monitoring requirements associated with substantially similar discharge points in accordance with Schedule B.7.c.ii for discharges with applicable effluent limits. The permit registrant must sample all discharge points subject to numeric effluent limit(s).

7. Sampling Procedures

a. Grab Sampling

i. For each discharge point monitored, collect a grab or composite sample of stormwater discharges. Discharges from discharge points with shallow overland/sheet flows may need to be concentrated to obtain a sample.

ii. Composite samples may be used as an alternative to grab sampling, except when monitoring for pH, bacteria or oil and grease. Composited samples must be collected from the same storm event. The permit registrant may not switch between grab sampling to composite sampling during a full reporting year without prior approval from DEQ or agent.

iii. The permit registrant must perform all monitoring using proper sampling techniques in accordance Schedule F, Section C3.

b. Representative Sample

i. Samples must be representative of the discharge.

ii. Monitoring points must be identified in the SWPCP.

iii. Stormwater discharges regulated by this permit include stormwater run-on that commingles with stormwater discharges associated with industrial activity.

iv. If discharges authorized by this permit commingle with discharges authorized under a separate NPDES permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable. When combined flows are unavoidable, sampling must include all permitted parameters.

v. Authorized non-stormwater discharges under Condition I.6 of this permit must only be sampled when commingled with stormwater discharges associated with industrial activity.

vi. Stormwater flows may combine into a common on-site treatment facility; discharges in excess of the design storm capacity must be sampled if the minimum monitoring frequency has not been achieved.

vii. The permit registrant shall, to the extent practicable, sample stormwater associated with industrial activity as it flows off-site before it combines with stormwater, wastewater or other waste permitted streams, or from areas outside the facility, or mixes with any surface water.

c. Multiple Discharges - Each discharge point must be monitored unless:

i. Discharge point serves an area without exposure of stormwater to industrial activities.

ii. Discharge point has effluent that is substantially similar to the effluent(s) of a monitored discharge point and the same BMPs are implemented and maintained at the substantially similar discharge points or drainage areas that lead to the discharge points. Substantially similar effluent(s) are discharges from drainage areas serving comparable activities where the discharges are expected to be similar in composition. The determination of substantial similarity of effluent(s) must be based on past monitoring data or an analysis supporting that the discharge points are substantially similar. The supporting data or analysis must be included in the SWPCP. This provision does not apply to discharge point(s) subject to a numeric effluent limit.

iii. Discharge points from approved mass reduction measures that reduced the mass of pollutants at or above DEQ-approved design storm capacity. For mass reduction measures installed during previous permit cycles, the permit registrant must comply with Schedule A.6.

d. Timing - The discharge must be monitored during the first 12 hours of the discharge event, which is a storm event or snowmelt resulting in an actual discharge from a site. If it is not practicable to collect the sample within this period, collect the sample as soon as practicable and provide documentation with the Discharge Monitoring Report why it was not practicable to take samples within the first 12 hour period. The permit registrant is not required to sample outside of regular business hours of operation or during unsafe conditions.

e. Sampling for pH - pH sampling must be done by either measuring the pH directly in the flow, or analyzing the sample within 15 minutes of sample collection.
   i. The permit registrant must perform pH monitoring with a properly calibrated pH meter.
   ii. The permit registrant must follow pH meter manufacturers' specifications and keep meter in good working order.
   iii. pH paper may not be used to comply with the monitoring requirements established in this permit.

f. Monitoring Frequency - The permit registrant must monitor stormwater discharge according to the frequency described in Table 6, unless DEQ or agent grant a monitoring waiver or approve a monitoring variance.
   i. Qualifying stormwater samples must be collected at least 14-days apart.
   ii. The permit registrant may collect more samples than the minimum frequency described below, but must report this additional data in the Discharge Monitoring Report. All qualifying samples must be included to establish a monitoring waiver in Schedule B.9 or to conduct the geometric mean evaluation in Schedule A.12 of this permit, except from approved mass reduction measures that reduced the mass of pollutants at or above DEQ-approved design storm capacity. For mass reduction measures installed during previous permit cycles, the permit registrant must comply with Schedule A.6.

g. Exceedance of Numeric Effluent Limit – The permit registrant must conduct follow-up monitoring of any pollutant that exceeds the numeric effluent limit(s) no later than 30 calendar days (or during the next storm event should none occur within 30 calendar days) of receiving the monitoring results. If the follow-up monitoring exceeds the numeric effluent limit, the permit registrant must monitor the discharge four times per year until compliance with the numeric effluent limit is achieved. Once monitoring achieves the effluent limit concentration, semi-annual frequency may resume.

Table 6: Monitoring Frequency

Pollutant Category	Minimum Frequency
All applicable statewide benchmarks in Table 4, any applicable sector-specific benchmarks in Schedule E and any impairment pollutants	Four times per year, two samples between January 1 and June 30, and two samples between July 1 and December 31
Any applicable numeric effluent limitations	Two times per year, One sample between January 1 and June 30, and one sample between July 1 and December 31 (unless exceed numeric effluent limit, four times per year)
Any wasteload allocations or additional schedules in EPA-approved TMDL	As specified in the TMDL

8. Monitoring Variance

a. If the permit registrant missed a sample due to no storm events of sufficient magnitude to produce run-off during regular business hours of operation and safe conditions, a monitoring variance must be requested. Variance requests are required to be submitted on February 15 and August 15 with the Discharge Monitoring Report for each missed sample. A "no discharge" claim monitoring variance request must include supporting data and analysis demonstrating why there was no discharge for monitoring to occur. If DEQ or agent has evidence contradicting the information in the permit registrant's monitoring variance request, failure to complete the required monitoring is cited as a permit violation. Supporting data must be included in the request, and may include:

i. State or federal authorities declared the year a drought year.
ii. Demonstration that rainfall in the area where the permit registrant's facility is located was 20 percent or more below the three-year average rainfall for that area.
iii. Photo documentation, rain gauge data, detention basin storage volumes, storm infiltration rate or retention capacity.

9. Monitoring Waiver for Benchmarks and Impairment Pollutant Monitoring

a. A monitoring waiver may be requested from DEQ or agent for the following circumstances:

i. When the benchmark concentrations have been achieved during a full reporting year, as demonstrated by:
(1) The geometric mean of five consecutive qualifying sample results collected at any monitoring point is equal to or below the applicable statewide or sector-specific benchmarks; or
(2) For pH, qualifying sample results collected at any monitoring point are within the range for five consecutive readings; or
(3) For parameters and discharge point(s) that triggered Tier 2 during this permit cycle, after the corrective action has been implemented and qualifying sample results during a full reporting year achieve the conditions above in Schedule A.8.a.i.(1) or (2).

ii. When impairment monitoring results collected at any monitoring point indicate non-detect for four consecutive qualifying samples, or after two full reporting years all qualifying sample results collected at any monitoring point are equal or below the impairment monitoring

concentrations in Table 5 and Table 5A. For pH impairment monitoring after two full reporting years all qualifying sample results collected at any monitoring point are within the basin-specific pH range as specified in Appendix A, referenced in Table 5.

iii. If the exceedance(s) of a benchmark or impairment pollutant is attributed solely to the presence of the pollutant(s) in background and is not associated with industrial activities at the site. The permit registrant may submit a background waiver report to DEQ or agent that describes the investigation and analysis to demonstrate that the exceedances is due to background conditions. The report must include any data collected by the permit registrant or others (including peer-review literature studies) that describe the levels of background pollutant in the discharge.

iv. If a facility is inactive and unstaffed and no industrial materials or activities are exposed to stormwater, the permit registrant is not required to conduct monitoring for the remainder of the permit term.

(1) The permit registrant must provide documentation with the Discharge Monitoring Report indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii).

(2) The permit registrant must sign and certify the statement in accordance with D8 in Schedule F of this permit.

b. The permit registrant's monitoring waiver request must include documentation to support the request. Monitoring waivers may be requested for individual parameters at each monitoring point.

c. DEQ or agent will notify the permit registrant if a monitoring waiver is approved or denied. Until approval of the monitoring waiver is received, the permit registrant must continue monitoring.

d. Approved monitoring waivers are valid until the last full reporting year of the permit term, which begins on July 1, 2025.

e. There is no reduction in monitoring allowed for:

i. Visual observations, unless the site is inactive or unstaffed and there are no industrial materials or activities exposed to stormwater and the permit registrant meets requirements in Schedule B.9.a.vii of this permit;

ii. The first and last full reporting year of the permit cycle;

iii. Impairment monitoring subject to a compliance schedule in Schedule C; and

iv. Monitoring for numeric effluent limits.

f. Reinstatement of Monitoring

i. It is the responsibility of the permit registrant to reinstate discharge monitoring under any of the following circumstances or if notified by DEQ or agent:

(1) Prior monitoring used to establish the monitoring waiver was improper or sampling results were incorrect;

(2) Changes to site conditions are likely to affect stormwater discharge characteristics, such as change in SIC code, process change or increased pollutants sources exposed to stormwater;

(3) Additional monitoring occurs and the sampling results exceed benchmark(s) or impairment monitoring concentrations in Table 5 or Table 5A;

(4) On July 1, 2025, for benchmark and impairment monitoring waiver approvals; or

(5) For inactive or unstaffed sites, the facility becomes active or staffed, or industrial materials or activities become exposed to stormwater.

g. Revocation of Monitoring Waiver
   i. DEQ or agent may revoke the monitoring waiver based on any of the above conditions in Schedule B.9.f.i.1-5 or in response to an inspection, corrective action, or upon discovery of the discharge which has caused or contributed to a water quality standard exceedance. DEQ or agent will notify the permit registrant that the monitoring waiver is revoked.

10. Additional Monitoring- DEQ or agent may notify the permit registrant of additional discharge monitoring requirements. Any such notice will state the reasons for the additional monitoring, monitoring location and pollutant to be monitored, frequency and period of monitoring, sample types and reporting requirements.

11. For a new permit registrant discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15), and North Santiam River under OAR 340-041-0350 - For potential or existing dischargers that did not have a permit prior to January 28, 1994, and existing dischargers that have a NPDES stormwater discharge permit but request an increased load limitation.

a. No later than 180 calendar days after obtaining permit coverage, the permit registrant must submit to DEQ a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the stormwater discharge as required by OAR 340-041-0350(7)(a).
b. No later than 30 calendar days from DEQ approval, the permit registrant must implement the monitoring and water quality evaluation program.

INSPECTIONS

12. Monthly Inspection Requirements

a. The permit registrant must inspect areas where industrial materials or activities are exposed to stormwater and areas where stormwater control measures, including infiltration devices, mass reduction measures, structures, catch basins, and treatment facilities are located. Inspections must include an evaluation of control measures consistent with the SWPCP requirements. Inspections must include observations of all discharge points as well as the following:
   i. Industrial materials, residue, or trash that may have or could come into contact with stormwater;
   ii. Leaks or spills from industrial equipment, drums, tanks, and other containers;
   iii. Offsite and internal tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
   iv. Tracking or blowing of raw, final, or waste materials that results in exposure of stormwater falling on the site;
   v. Evidence of, or the potential for, pollutants entering the drainage system;
   vi. Evidence of pollutants discharging to receiving waters at all discharge point(s);
   vii. Visual observation for the presence of floating and suspended solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge

point(s), including discharge points that have been authorized to be substantially similar in accordance with Schedule B.7.c.ii; and

viii. Stormwater control measures, including treatment, infiltration devices and mass reduction measures, to ensure they are functioning properly, and maintained on designed schedules.

b. Inspections must be conducted by personnel that have completed employee training and are familiar with all aspects of the SWPCP.
c. Conduct visual inspections at the site on a monthly basis when the facility is in operation. The permit registrant must perform visual observations for signs of pollution as required by Schedule B.12.a.vii above during a discharge event if one occurs during the month, regardless whether the monthly site inspection has already occurred.
d. For exceptionally large facilities where monthly inspections of all areas or visual observation at all substantially similar discharge points are infeasible, DEQ or agent may approve a modified inspection frequency.
e. Conduct visual observations of a sample in a clean, colorless glass or plastic container in well-lit area during regular business hours of operation and safe conditions.
f. The permit registrant's visual observations sample collection does not need to conform to sample collection requirements in Section D8 within Schedule F, but must be representative of the stormwater discharge.
g. Immediately take all reasonable steps to temporarily minimize or prevent the discharge of pollutants until permanent corrective action is complete.
h. Conduct all corrective action required as a result of inspection and visual observation.
i. Document monthly inspections in an inspection report that is retained on-site and submitted to DEQ or agent upon request. The inspection report must include:
    i. The inspection date and time;
    ii. The name(s) of inspector(s);
    iii. Control measures and treatment facilities needing cleaning, replacement, maintenance, reconditioning or repair;
    iv. The condition of the drainage and conveyance system and need for maintenance;
    v. Previously unidentified sources of pollutants;
    vi. Stormwater discharge visual observations, (Tier 1 report is required if visual observation shows evidence of stormwater pollution listed in Schedule B.12.a.vii.);
    vii. Nature of the discharge; whether caused by snow or rain; and
    viii. Any corrective action response, source control or maintenance taken or scheduled to remedy problems found.

REPORTING AND RECORDKEEPING REQUIREMENTS

13. Reporting Monitoring Data

a. The permit registrant must submit all monitoring results required in this permit web-based electronically, when directed by DEQ or agent. Paper submittal must be on DEQ-approved Discharge Monitoring Report (DMR) forms.
    i. DMRs are due quarterly as specified in Table 7, as required in Schedule B.14 for samples taken during the preceding calendar quarter.

ii. Reports must include laboratory results from the testing laboratory, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed.
iii. The permit registrant must submit pH field notes and chain-of-custody.
iv. Report non-detections as directed by DEQ. In calculating the geometric mean, use one-half of the detection level for non-detections.
v. Report all sample results from monitoring points.
vi. The permit registrant must sign and certify submittals of Discharge Monitoring Reports, any additional reports, and other information in accordance with the requirements of Section D8 within Schedule F of this permit.

b. The permit registrant must report Tier 2 geometric mean benchmark evaluation on the DMR due on August 15 after each full reporting year.
c. Electronic Submission
i. When directed by DEQ, the permit registrant must submit sampling results and lab and field reports and other information required by Schedule B using DEQ's web-based electronic system.
ii. A permit registrant may apply for a waiver from web-based electronic reporting. The request must be submitted on a DEQ-approved form and a fee may be assessed.
iii. Permit registrants in agents' jurisdictions will continue to submit DEQ-approved DMR forms in paper format until notified by DEQ and agent of phased electronic submission requirements.

14. Discharge Monitoring Reports Submission:
The permit registrant must submit all data by required Discharge Monitoring Report due dates. Failure to submit a DMR is a violation, even if there was no discharge during a quarter.

Table 7: DMR Submission Deadlines

Reporting Quarters	Months	DMR Due Dates
1st	July-September	November 15
2nd	October-December	February 15[1]
3rd	January-March	May 15
4th	April-June	August 15[1]

[1]Variance request must be submitted semi-annually, as applicable

15. Exceedance Report for Numeric Effluent Limits - If follow-up monitoring pursuant to Schedule B.7.g of this permit exceeds a numeric effluent limit, the permit registrant must submit an Exceedance Report to DEQ or agent no later than 30 calendar days after receiving the monitoring results. The report must include the monitoring data from this monitoring event and the preceding monitoring event(s), an explanation of the contributing factors that resulted in the exceedance, and what the permit registrant has done to correct the violation or intends to do if the corrective actions are not complete.

16. **Record Keeping Procedures** – The permit registrant must record and maintain the following information at the facility. All records must be retained by the permit registrant for at least three years and made available to DEQ, agent or local municipality upon request.
    a. A copy of the SWPCP and any revisions, including revised stamped SWPCP from Tier 2 corrective action;
    b. A copy of this permit;
    c. DEQ's notice of permit coverage under the current permit term;
    d. Documentation of maintenance and repairs of control measures, treatment systems and mass reduction measures;
    e. Mass reduction measures re-certification as required by Schedule A.6;
    f. Tier 1 reports, including industrial-specific checklist(s);
    g. All inspection reports;
    h. Documentation of any benchmark exceedance and corrective action taken;
    i. All copies of any reports or corrective action submitted to DEQ or agent;
    j. Spills or leaks of significant materials (See Schedule D.3, Definitions) that impacted or had the potential to impact stormwater or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature;
    k. Documentation to support a claim that a facility has changed its status from active to inactive and unstaffed with respect to the requirements to conduct routine facility inspections;
    l. Discharge Monitoring Reports, laboratory reports, pH calibration and field sampling notes;
    m. Compliance schedule reports as specified in Schedule C;
    n. Numeric limits exceedance reports;
    o. Water Quality Standards Report; and
    p. Employee education materials and records of training.

17. Summary of Reporting Requirements and Submittal Date

The permit registrant must submit all reports through a web-based electronic system when directed by DEQ and agent.

Table 8: Reporting Requirements

Permit Condition	Permit Schedule	Report Required	Due Date
Must not cause or contribute to a violation of instream water quality standard	Schedule A.3	Water Quality Standards Corrective Action Report	No later than 30 calendar days after receiving monitoring results
Certification of mass reduction measures installed during previous permit cycles	Schedule A.6	Stamped certification	December 31, 2021
SWPCP submission	Schedule A.9	SWPCP revision	No later than 30 calendar days after the completion of modification or as requested by DEQ or agent
Sample results exceed applicable statewide or sector-specific benchmarks or visual observations show signs of pollution	Schedule A.11	Tier 1 Report	No later than 30 calendar days after receiving monitoring results; Retain on-site and submit upon request
Geometric mean exceeds statewide benchmarks in full reporting year (July1 – June 30)	Schedule A.12	Tier 2 Report	No later than December 31, six months after June 30 (date triggered)
		Tier 2 Mass Reduction Waiver	
		Tier 2 Background Waiver	
Confirmation of Tier 2 implementation	Schedule A.12.i.iv	Notification confirming Tier 2 proposal installation	No later than 30 calendar days of implementation
Sample results continue to exceed benchmark for Tier 2 parameters post-implementation	Schedule A.11.c.v	Tier 1 Report	No later than 30 calendar days after receiving monitoring results; Retain on-site and submit upon request
Trigger numeric water quality-based effluent limit	Schedule A.13.e	WQBEL notification and compliance schedule request	No later than 30 calendar days after receiving monitoring results
Submission of monitoring results after the preceding calendar quarter	Schedule B.14	Discharge Monitoring Report	No later than February 15, May 15, August 15, and November 15
Sample results exceed numeric effluent limitations	Schedule B.15	Exceedance Report	No later than 30 calendar days after receiving monitoring results and increase monitoring frequency

SCHEDULE C

COMPLIANCE SCHEDULES

1. **Numeric Water Quality-based Effluent Limits:** If the permit registrant is subject to numeric water quality-based effluent limits as required by triggering events in Schedule A.13.e, unable to immediately comply with applicable effluent limits, and has requested a compliance schedule as specified in Schedule C.2., the permit registrant must comply with the following compliance schedule milestones in Table 9. The permit registrant is allowed a compliance schedule when site modifications to implement a combination of source control and treatment are necessary to achieve numeric water quality-based effluent limit. Final numeric water quality-based effluent limits become enforceable when consistent compliance is achieved, or a maximum of 24 months following the trigger event specified in Schedule A.13.e, whichever occurs first.
   a. Failure to comply with the final compliance schedule within 24 months following the qualifying event specified in Schedule A.13.e is a permit violation.
   b. Consistent compliance with the effluent limits for this section shall be demonstrated by achieving compliance with the applicable effluent limit(s) for one full reporting year, unless the permit registrant provides, and DEQ or agent accepts, a rationale for why the monitoring data is not representative of anticipated future performance.

2. **Compliance Schedule Milestones:** A permit registrant will be allowed a compliance schedule if monitoring results indicate that stormwater discharges do not meet numeric water quality-based effluent limit concentrations in Table 5 that correspond to the specific pollutant(s) for which the water body is impaired. The permit registrant must request a compliance schedule from DEQ or agent and shall carry out the actions by the specified due dates below.

Table 9: Compliance Schedules

Action	Due Date[1]
1. Identify the source of contamination in stormwater discharge and determine if source control, treatment, or both will be used to achieve compliance with the applicable numeric effluent limit(s).	Within 6 months
2. Submit plans for structural modification of existing facilities or the construction of new facilities consistent with the determination in Action 1.	Within 12 months
3. Commence modifications/installations as specified in Action 2.	Within 18 months
4. Comply with final effluent limits and submittal of a revised SWPCP	Within 24 months

[1] In relation to the date of the triggering events specified in Schedule A.13.e occurred

3. **Status Reports:** Permit registrant shall submit status reports to DEQ or agent within 14-days after each action due date listed in Table 9. Status reports shall include the following information:
   a. A status summary of the progress towards completing the actions specified in Table 9, including any relevant documentation or findings necessary to demonstrate compliance with the applicable due dates.
   b. Confirmation of completion of the required action or a communication with DEQ or agent that the permit registrant will be delayed in implementing the required action. Notifications of a delay must include reasons for the delay and a revised schedule for ensuring compliance with the final

due date to comply with the numeric water quality-based effluent limits within 24 months. DEQ or agent will notify the permit registrant no later than 30 calendar days from receipt if the delay is approved or denied. An extension of the final compliance date is prohibited.

SCHEDULE D

SPECIAL CONDITIONS

1. Releases in Excess of Reportable Quantities. This permit does not relieve the permit registrant of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.

2. Availability of SWPCP and Monitoring Data. The Stormwater Pollution Control Plan and stormwater monitoring data must be made available to government agencies responsible for stormwater management in the permit registrant's area.

3. Definitions

For the purpose of this permit:

a. Arid areas means portion of the state where annual precipitation averages range from 0 to 10 inches.
b. Background pollutants include substances that are naturally occurring in soils or groundwater. Background pollutants do not include legacy pollutants from earlier activity on the site, or pollutants in run-on from neighboring sources that are not naturally occurring.
c. Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the state." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.
d. Capital Improvements means the following improvements that require capital expenditures:
    i. Removal or permanent isolation from exposure to stormwater of significant materials left from previous activities on the site.
    ii. Treatment best management practices including to settling basins, oil/water separation equipment, grassy swales, detention/retention basins, and media filtration devices.
    iii. Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
    iv. Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of stormwater to treatment systems.
    v. Roofs and appropriate covers for manufacturing areas.
    vi. Volume reduction measures, including low impact development control measures.
e. Co-located Industrial Activities means any industrial activities, excluding the primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i - ix, xi) and identified in Table 1: Sources Covered of the permit. An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations or identified in Table 1.
f. Columbia Slough means the waterway in northern Multnomah County flowing roughly parallel to the Columbia River between Fairview Lake and the Willamette River. *Confirm discharges to Columbia Slough by contacting the cities of Portland or Gresham.*

g. Compliance Schedule means a schedule of remedial measures, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with a water quality-based effluent limit. See *Schedule of compliance* in 40 CFR 122.2.
h. Control Measure means any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.
i. Discharge Point means the location where stormwater flows leave the facility and enters waters of the state directly or indirectly through a separate storm sewer system, including the location where any sheet flow leaves a facility.
j. Existing Discharger means an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.
k. Feasible means technologically possible and economically practicable and achievable in light of best industry practices.
l. Full reporting year is from July 1 of one year to June 30 of the following year (for example, the 2021/2022 full reporting year is from July 1, 2021, through June 30, 2022).
m. Hazardous Substances is defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
n. High Quality Waters means those waters that meet or exceed levels that are necessary to support the propagation of fish, shellfish, and wildlife; recreation in and on the water; and other designated beneficial uses. Waters identified on the Category 5: 303(d) listed waters as not meeting applicable state water quality standards for a given pollutant are not high quality waters.
o. Immediately means in the context of repair or maintenance to control measures, the day you identify that a control measure needs to be maintained, repaired, or replaced, you must take all reasonable steps to minimize or prevent the discharge of pollutants until you can implement a permanent solution. However, if you identify a problem too late in the work day to initiate action, you must perform the action the following work day morning.
p. Impaired Waters means those waters identified by a State or EPA pursuant to Section 303(d) (Category 5) of the Clean Water Act as not meeting applicable State water quality standards for one or more pollutants. This may include both waters with approved TMDLs (Category 4), and those for which a TMDL has not yet been approved.
q. Industrial Activity means the categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity" as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi) or activities identified by DEQ as a significant contributor of pollutants, such as Table 2.
r. Industrial-specific Checklists means technical assistance document for optional use to assist permit registrants with a Tier 1 corrective action response comprised of universal and sector-specific source and operational control measures for major industrial groups. When implemented will assist in reducing sources of pollution exposed to stormwater. The permit registrant is expected to complete the universal checklists designed for all industrial sectors covered under this permit as well as sector-specific checklists applicable to SIC codes industrial activities at the site.
s. Industrial Stormwater means stormwater discharge associated with industrial activity (40 CFR 122.26(b)(14)).
t. Material Handling Activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.

u. Minimize means reduce or eliminate, or both, to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.
v. Monitoring Point for the purpose of this permit, means the location where stormwater discharge is sampled.
w. New Discharger means a facility from which there is or may be a discharge, that did not commence the discharge of pollutants at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.
x. New Source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.
y. No Exposure means all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).
z. Operator means any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:
    i. The entity has operational control over industrial activities, including the ability to modify those activities; or
    ii. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with this permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by this permit).
aa. Outstanding Resource Waters means those waters designated by the Environmental Quality Commission where existing high quality waters constitute an outstanding state or national resource based on their extraordinary water quality or ecological values or where special water quality protection is needed to maintain critical habitat areas.
bb. Portland Harbor means the study area of EPA's Portland Harbor Superfund site located in the Lower Willamette River from approximately river mile 1.9 to 11.8.
cc. Primary industrial activity means any activities performed on-site that are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application-sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.
dd. Qualifying samples are samples that are collected at least 14-days apart, are analyzed using approved methods (see Schedule F), and satisfy the Quality Assurance/Quality Control requirements of the method.
ee. Regular business hours of operation means those timeframes when the facility is engaged in its primary production process, with personnel that have completed the required SWPCP training.

ff. Run-on sources of stormwater means stormwater that drains from land located upslope or upstream from the regulated facility.

gg. Semi-arid areas means where annual rainfall averages range from 10 to 20 inches.

hh. Significant Materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; TSCA, fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges.

ii. Storm event means a precipitation event that results in a measurable amount of precipitation to results in an actual discharge (except otherwise specified in Schedule E).

jj. Stormwater means stormwater runoff, snow melt runoff and surface runoff drainage. See 40 CFR 122.26(b)(13).

kk. Stormwater Discharge Associated with Industrial Activity, the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, state, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14). The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v). See 40 CFR 122.26(b)(14)

ll. Stormwater Conveyance means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.

mm. Total Maximum Daily Load (TMDL) is the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background. See OAR 340-041-0002(65) and OAR 340-042-0030(15).

nn. Treatment Measures mean Best Management Practices that are intended to remove pollutants from stormwater. These measures include: settling basins, oil/water separation equipment, detention/retention basins, media filtration devices, electrocoagulation, constructed wetlands and bioswales.

oo. Wasteload Allocation (WLA) means the portion of receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation. See OAR 340-041-0002(67).

4. Local Public Agencies Acting as DEQ's Agent

DEQ has entered into agreement which authorize certain local governments and special districts to act as its agent in implementing portions of this permit. The agent conducts the following activities, including: application and SWPCP review, inspections, monitoring data review, stormwater and wastewater monitoring, and verification and approval of no-exposure certifications. Where DEQ has entered into such an agreement, DEQ or agent will notify the permit registrant of where to submit no-exposure certifications, and other notifications or correspondence associated with this permit.

5. Terminating Permit Coverage

a. The permit registrant must meet the following conditions:
   i. Cease all industrial operations and stormwater discharge associated with industrial activity as defined in 40 CFR 122.26(b)(14); or
   ii. Obtain NPDES coverage under an individual permit; or
   iii. A new owner or operator legally acquires responsibility of property or industrial activity.
   iv. Conditions for termination under sectors G, H and I have been met, as applicable.

b. To terminate permit coverage, registrants must:
   i. Complete and submit a Notice of Termination to DEQ or agent for approval.
   ii. Resolve all outstanding invoices and compliance issues.

c. Until termination has been approved by DEQ, the permit registrant must comply with all permit conditions.

SCHEDULE E

SECTOR-SPECIFIC REQUIREMENTS

1. The permit registrant must meet the sector-specific requirements in Schedule E associated with their primary industrial activity and any co-located industrial activities, as defined in Schedule D of this permit. The sector-specific requirements apply to the areas of the facility where the sector-specific activities occur.
2. These sector-specific requirements in Schedule E are in addition to the requirements in Schedule A, Schedule B, and Schedule C of this permit.
3. Pacific Ocean discharges will use saltwater benchmarks as the target concentrations, when one is established in this Schedule.
4. Estuarine waters discharges, the more stringent benchmark between the freshwater and saltwater benchmarks are applied as the target concentration. If no saltwater benchmark is listed, the freshwater benchmark is applied.
5. If a discharge point is subject to a statewide benchmark(s) for the same parameter that also has a benchmark(s) in Schedule E, the statewide benchmark supersedes Schedule E concentrations. Other hardness-dependent metals concentrations are calculated in Table 10 using median hardness for each georegion.

Table 10: Metals Concentrations

Georegion	Median Hardness mg/L	Total Cadmium[1] mg/L	Total Chromium III[1] mg/L	Total Nickel[1] mg/L	Total Selenium[2] mg/L	Total Silver[1] mg/L
Cascades	12.9	0.00039	0.34	0.083	0.013	0.00011
Coastal	29.75	0.0010	0.67	0.17	0.013	0.00047
Columbia River Mainstem	63.8	0.0024	1.2	0.32	0.013	0.0017
Columbia Slough	29.4	0.00099	0.66	0.17	0.013	0.00046
Eastern	53.3	0.0019	1.1	0.28	0.013	0.0013
Portland Harbor	28.55	0.00095	0.65	0.16	0.013	0.00044
Willamette Valley	41.9	0.0015	0.88	0.22	0.013	0.00085

[1]See Endnote E and Endnote F equations for hardness-based metals, Table 30: Aquatic Life Water Quality Criteria
[2] DEQ Memorandum, Implementations Instruction for Selenium

6. Table E-1 below identifies SIC codes and activities descriptions that are required to meet the sector-specific requirements in Schedule E of the permit.

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
SECTOR A: TIMBER PRODUCTS	
2421	General Sawmills and Planing Mills
2411	Logging
2426	Hardwood Dimension and Flooring Mills
2429	Special Product Sawmills, Not Elsewhere Classified
2431-2439 (except 2434, see Sector W)	Millwork, Veneer, Plywood, and Structural Wood
2448	Wood Pallets and Skids
2449	Wood Containers, Not Elsewhere Classified
2451, 2452	Wood Buildings and Mobile Homes
2491	Wood Preserving
2493	Reconstituted Wood Products
2499	Wood Products, Not Elsewhere Classified
2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS	
2631	Paperboard Mills
2611	Pulp Mills
2621	Paper Mills
2652-2657	Paperboard Containers and Boxes
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS	
2873-2879 (excluding 2874)	Agricultural Chemicals
2812-2819	Industrial Inorganic Chemicals
2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
2861-2869	Industrial Organic Chemicals
2891-2899	Miscellaneous Chemical Products
3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
2911	Petroleum Refining
SECTOR D: PETROLEUM REFINING AND RELATED INDUSTRIES Asphalt Paving Mixtures and Blocks, Primary SIC code 2951, Covered by 1200-A General Permit	
2951 (co-located SIC code only), 2952	Asphalt Paving and Roofing Materials
2992, 2999	Miscellaneous Products of Petroleum and Coal
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS Ready-Mixed Concrete, Primary SIC code 3273, Covered by 1200-A General Permit	
3251-3259	Structural Clay Products
3261-3269	Pottery and Related Products
3271-3275 (3273 co-located SIC code only)	Concrete, Gypsum and Plaster Products
3211	Flat Glass
3221, 3229	Glass and Glassware, Pressed or Blown
3231	Glass Products Made of Purchased Glass
3241	Hydraulic Cement
3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS	
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
3321-3325	Iron and Steel Foundries
3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
3363-3369	Nonferrous Foundries (Castings)
3331-3339	Primary Smelting and Refining of Nonferrous Metals
3341	Secondary Smelting and Refining of Nonferrous Metals
3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)	
1021	Copper Ore and Mining Dressing Facilities
1011	Iron Ores
1021	Copper Ores

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
1031	Lead and Zinc Ores
1041, 1044	Gold and Silver Ores
1061	Ferroalloy Ores, Except Vanadium
1081	Metal Mining Services
1094, 1099	Miscellaneous Metal Ores
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES	
1221-1241	Coal Mines and Coal Mining-Related Facilities
SECTOR I: OIL AND GAS EXTRACTION AND REFINING	
1311	Crude Petroleum and Natural Gas
1321	Natural Gas Liquids
1381-1389	Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING- Discharges Covered by 1200-A General Permit	
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES	
HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities: • Hazardous waste storage • Hazardous waste disposal • Hazardous waste facilities operating under interim status • Hazardous waste facilities operating under a permit under Subtitle C of RCRA HZ is the Activity Code for this Sector. It potentially applies to any facility regardless of SIC, in addition to these specifically related to hazardous waste: • SIC 4953 Refuse Systems (hazardous waste treatment and disposal)
SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS	
LF	All Landfill, Land Application Sites and Open Dumps
LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: MOTOR VEHICLE PARTS, USED	
5015	Automobile Salvage Yards
SECTOR N: SCRAP AND WASTE MATERIALS	
5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
5093	Source-separated Recycling Facility

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES	
SE	Steam Electric Generating Facilities, including coal handling sites: • steam electric power generation using coal, including coal handling areas • steam electric power generation using natural gas • steam electric power generation using oil • steam electric power generation using nuclear energy • steam electric power generation using any other fuel to produce a steam source • coal pile discharge (includes effluent limitations established by 40 CFR 423) • dual fuel co-generation (i.e., steam generation using fossil fuel to augment a heat-capture generation system) SE is the Activity Code for this Sector. It may apply to any facility SIC Code, in addition to these specifically related to steam electric generation: • SIC 4911 Electric Services (fossil fuel power generation, nuclear electric power generation & other electric power generation)
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING	
4011, 4013	Railroad Transportation
4111-4173	Local and Highway Passenger Transportation
4212-4215	Trucking and Courier Services, Except Air
4226, 4231	Special Warehousing and Storage, Not Otherwise Classified, Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation
4311	United States Postal Service
5171	Petroleum Bulk Stations and Terminals
SECTOR Q: WATER TRANSPORTATION	
4412-4499	Water Transportation Facilities
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS	
3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES	
4512-4581	Air Transportation Facilities
SECTOR T: TREATMENT WORKS	

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403.
SECTOR U: FOOD AND KINDRED PRODUCTS	
2041-2048	Grain Mill Products
2074-2079	Fats and Oils Products
2011-2015	Meat Products
2021-2026	Dairy Products
2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
2051-2053	Bakery Products
2061-2068	Sugar and Confectionery Products
2082-2087	Beverages
2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS	
2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
SECTOR W: FURNITURE AND FIXTURES	
2434	Wood Kitchen Cabinet and countertop Manufacturing
2511-2519	Household Furniture
2521, 2522	Office Furniture
2531	Public Building and Related Furniture
2541, 2542	Partitions, Shelving, Lockers, and Office and Store Fixtures
2591, 2599	Miscellaneous Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING	

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES	
3011	Tires and Inner Tubes
3021	Rubber and Plastics Footwear
3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
3081-3089	Miscellaneous Plastics Products
3931	Musical Instruments
3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING	
3111	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS	
3411-3499 (except 3479)	Fabricated Metal Products, and Coating, Engraving, and Allied Services
3911-3915	Jewelry, Silverware, and Plated Ware
3479	Fabricated Metal Coating and Engraving
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY	
3511-3537	Engines and Turbines, Farm and Garden Machinery and Equipment, Construction, Mining and Materials Handling Machinery and Equipment
3541-3549	Metalworking Machinery and Equipment
3552-3559	Special Industry Machinery, Except Metalworking Machinery
3561-3569	General Industrial Machinery and Equipment
3581-3599	Refrigeration and Service Industry Machinery, Miscellaneous Industrial and Commercial Machinery and Equipment
3711-3716	Motor Vehicles and Motor Vehicle Equipment
3721-3751 (except 3731, 3732)	Aircraft and Parts, Ship and Boat Building and Repairing, Railroad Equipment, Motorcycles, Bicycles and Parts

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
3761-3799	Guided Missiles and Space Vehicles and Parts, Miscellaneous Transportation Equipment
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC AND OPTICAL GOODS ***No Sector-specific requirements***	
3571-3579	Computer and Office Equipment
3612-3699	Electronic and Other Electrical Equipment and Components, Except Computer Equipment
3812-3829	Measuring, Analyzing, Optical and Controlling Instruments
3841-3861	Photographic, Medical and Optical Goods
3873	Watches and Clocks

Sector A – Timber Products
Additional Technology-Based Effluent Limits

E.A.1 *Good Housekeeping*. In areas where storage, loading and unloading, and material handling occur, perform good housekeeping to limit the discharge of wood debris, minimize the leachate generated from decaying wood materials, and minimize the generation of dust.

E.A.2 Additional SWPCP Requirements

E.A.2.1 *Drainage Area Site Map*. Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas.

E.A.2.2 *Inventory of Exposed Materials*. Where such information exists, if your facility has used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving, document in your SWPCP the following: areas where contaminated soils, treatment equipment, and stored materials still remain and the management practices employed to minimize the contact of these materials with stormwater discharge.

E.A.2.3 *Description of Stormwater Management Controls*. Document measures implemented to address the following activities and sources: log, lumber, and wood product storage areas; residue storage areas; loading and unloading areas; material handling areas; chemical storage areas; and equipment and vehicle maintenance, storage, and repair areas. If your facility performs wood surface protection and preservation activities, address the specific control measures, including any BMPs, for these activities.

E.A.3 Additional Inspection Requirements.

E.A.3.1. If your facility is a wood preserving facility under SIC 2491, inspect processing areas, transport areas, and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with stormwater discharges.

E.A.4 Sector-Specific Benchmarks

Table E.A-1 identifies benchmarks that apply to the specific subsectors of Sector A. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.A-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
General Sawmills and Planing Mills (SIC code 2421)	Chemical Oxygen Demand (COD)	120.0 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Hardwood Dimension and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood, and Structural Wood; Wood Pallets and Skids; Wood Containers, not elsewhere classified; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified (SIC code 2426, 2429, 2431-2439 (except 2434), 2441, 2448, 2449, 2451, 2452, 2493, and 2499)	Chemical Oxygen Demand (COD)	120.0 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark
Log Storage and Handling (SIC code 2411)	Total Suspended Solids (TSS)	Statewide benchmark
Wood Preserving (SIC code 2491)	Total Arsenic freshwater	0.34 mg/L
	Total Arsenic saltwater	0.069 mg/L
	Total copper freshwater	Statewide benchmark
	Total copper saltwater	0.025 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector B – Paper and Allied Products

E.B.1 Sector-Specific Benchmarks

Table E.B-1 identifies benchmarks that apply to the specific subsectors of Sector B. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.B-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Paperboard Mills (SIC code 2631)	Chemical Oxygen Demand (COD)	120 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector C – Chemical and Allied Products Manufacturing, and Refining

E.C.1 Sector-Specific Benchmarks

Table E.C-1 identifies benchmarks that apply to the specific subsectors of Sector C. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.C-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Agricultural Chemicals (SIC codes 2873-2879, excluding 2874)	Nitrate plus Nitrite Nitrogen	10 mg/L
	Phosphorus	2.0 mg/L
	Total lead freshwater	Statewide benchmark
	Total lead saltwater	1.10 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Industrial Inorganic Chemicals (SIC codes 2812-2819)	Total Aluminum	1.10 mg/L
	Nitrate plus Nitrite Nitrogen	10 mg/L
Soaps, Detergents, Cosmetics, and Perfumes (SIC codes 2841-2844)	Nitrate plus Nitrite Nitrogen	10 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Plastics, Synthetics, and Resins (SIC codes 2821-2824)	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector D – Petroleum Refining and Related Industries

E.D.1 Limitation of Coverage

Asphalt Paving Mixtures and Blocks, Primary SIC code 2951, must apply for coverage under the 1200-A Industrial Stormwater General Permit.

Table E.D-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Asphalt Paving and Roofing Materials (SIC codes 2951, 2952) **co-located SIC codes only**	Total Suspended Solids (TSS)	Statewide benchmark

E.D.2 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.D-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.D-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from asphalt emulsion facilities. **co-located SIC code only.**	Total Suspended Solids (TSS)	23.0 mg/L, daily maximum
		15.0 mg/L, 30-day avg.
	pH	6.0 - 9.0 s.u.
	Oil and Grease	15.0 mg/L, daily maximum
		10 mg/L, 30-day avg.

[1]Monitor semi-annually

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector E – Glass, Clay, Cement, Concrete, and Gypsum Products

E.E.1 Limitations of coverage

Ready-Mixed Concrete, primary SIC code 3273, must apply for coverage under the 1200-A General Permit.

E.E.2 Additional Technology-Based Effluent Limits

E.E.2.1 *Good Housekeeping Measures*. With good housekeeping, prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust, or other significant material in stormwater from paved portions of the site that are exposed to stormwater. Consider sweeping regularly or using other equivalent measures to minimize the presence of these materials. Indicate in your SWPCP the frequency of sweeping or equivalent measures. Determine the frequency based on the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week if cement, aggregate, kiln dust, fly ash, or settled dust are being handled or processed. You must also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, or buildings, or under other covering.

E.E.3 Additional SWPCP Requirements

E.E.3.1 *Drainage Area Site Map*. Document in the SWPCP the locations of the following, as applicable: bag house or other dust control device; recycle/sedimentation pond, clarifier, or other device used for the treatment of process wastewater; and the areas that drain to the treatment device.

E.E.3.1 *Discharge Testing*. For facilities producing ready-mix concrete, concrete block, brick, or similar products, include in the non-stormwater discharge testing a description of measures that ensure that process wastewaters resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with NPDES wastewater permit requirements or are recycled.

E.E.4 Sector-Specific Benchmarks

Table E.E-1 identifies benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.E-1

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Clay Product Manufacturers (SIC codes 3251-3259, 3261-3269)	Total Aluminum	1.10 mg/L
Concrete and Gypsum Manufacturers (SIC codes 3271-3275) **3273: co-located SIC code only.**	Total Suspended Solids (TSS)	Statewide benchmark

E.E.5 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.E-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.E-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from material storage piles at cement manufacturing facilities (SIC code 3241)	Total Suspended Solids (TSS)	50 mg/L, daily maximum
	pH	6.0 - 9.0 s.u.

[1]Monitor semi-annually

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector F – Primary Metal

E.F.1 Additional Technology-Based Effluent Limits

E.F.1.1 *Good Housekeeping Measures*. As part of your good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and, where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

E.F.2 Additional SWPCP Requirements

E.F.2.1 *Drainage Area Site Map*. Identify in the SWPCP where any of the following activities may be exposed to precipitation or stormwater: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operations, etc., and could result in a discharge of pollutants to waters of the state.

E.F.2.2 *Inventory of Exposed Material*. Include in the inventory of materials handled at the site that potentially may be exposed to precipitation or discharge, areas where deposition of particulate matter from process air emissions or losses during material-handling activities are possible.

E.F.3 Additional Inspection Requirements

As part of conducting your monthly inspections address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material losses due to wind or stormwater runoff.

E.F.4 Sector-Specific Benchmarks

Table E.F-1 identifies benchmarks that apply to the specific subsectors of Sector F. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.F-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC codes 3312-3317)	Total Aluminum	1.10 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Iron and Steel Foundries (SIC codes 3321-3325)	Total Aluminum	1.10 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark
	Total copper freshwater	Statewide benchmark
	Total copper saltwater	0.025 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Rolling, Drawing, Extruding of Nonferrous Metals, Nonferrous Foundries (SIC codes 3351-3357 and 3363-3369)	Total copper freshwater	Statewide benchmark
	Total copper saltwater	0.025 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector G – Metal Mining

E.G.1 Covered Stormwater Discharges

The requirements in Sector G apply to stormwater discharges associated with industrial activity from Metal Mining facilities, including mines abandoned on Federal lands, as identified by the SIC Codes specified under types of industrial sources required to obtain coverage, Table 1. Coverage is required for metal mining facilities that discharge stormwater contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation.

E.G.1.1 *Covered Discharges from Inactive Facilities.* All stormwater discharges.

E.G.1.2 *Covered Discharges from Active and Temporarily Inactive Facilities*. Only the stormwater discharges from the following areas are covered:

- Waste rock and overburden piles if composed entirely of stormwater and not combined with mine drainage;
- Topsoil piles;
- Offsite haul and access roads;
- Onsite haul and access roads constructed of waste rock, overburden or spent ore if composed entirely of stormwater and not combining with mine drainage;
- Onsite haul and access roads not constructed of waste rock, overburden or spent ore except if mine drainage is used for dust control;
- Discharges from tailings dams or dikes when not constructed of waste rock or tailings and no process fluids are present;
- Discharges from tailings dams or dikes when constructed of waste rock or tailings and no process fluids are present, if composed entirely of stormwater and not combining with mine drainage;
- Concentration building if no contact with material piles;
- Mill site if no contact with material piles;
- Office or administrative building and housing if mixed with stormwater from industrial area;
- Chemical storage area;
- Docking facility if no excessive contact with waste product that would otherwise constitute mine drainage;
- Explosive storage;
- Fuel storage;
- Vehicle and equipment maintenance area and building;
- Parking areas (if necessary);
- Power plant;
- Truck wash areas if no excessive contact with waste product that would otherwise constitute mine drainage;
- Unreclaimed, disturbed areas outside of active mining area;
- Reclaimed areas released from reclamation requirements prior to December 17, 1990;
- Partially or inadequately reclaimed areas or areas not released from reclamation requirements.

E.G.1.3 *Covered Discharges from Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. All stormwater discharges.

E.G.1.4 *Covered Discharges from Facilities Undergoing Reclamation*. All stormwater discharges.

E.G.2 Limitations on Coverage

E.G.2.1 *Prohibition of Stormwater Discharges.* Stormwater discharges not authorized by this permit: discharges from active metal mining facilities that are subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).
Note: Stormwater discharge from these sources are subject to 40 CFR Part 440 if they are mixed with other discharges subject to Part 440. In this case, they are not eligible for coverage under this permit. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless they: (1) drain naturally (or are intentionally diverted) to a point source; and (2) combine with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440. Operators bear the initial responsibility for determining if they are eligible for coverage under this permit, or must seek coverage under another NPDES permit.

E.G.2.2 *Prohibition of Non-Stormwater Discharges*. Not authorized by this permit: adit drainage, and contaminated springs or seeps discharging from waste rock dumps that do not directly result from precipitation events.

E.G.3 Definitions

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

E.G.3.1 *Mining operation* – For this permit, mining operations are grouped into two distinct categories, with distinct technology based effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. “Mining operations” can occur at both inactive mining facilities and temporarily inactive mining facilities.

E.G.3.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:
a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and
b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be “construction” and have additional technology based effluent limits in E.G.4.2.

E.G.3.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and benefication of metal ore from the earth; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in E.G.4 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

E.G.3.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Note: Earth-disturbing activities described in the definition in E.G.3.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in E.G.4

E.G.3.5 *Inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but there are no active mining activities occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive metal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

E.G.3.6 *Temporarily inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable State or Federal agency.

E.G.4 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in E.G.3.3) are covered under this permit. For such earth-disturbing activities, permit registrants do not need to comply the technology-based effluent limits or Schedule B, monitoring or inspection frequency in Schedule B or E.G.5, E.G.7 or E.G.8. Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in E.G.4.1.9 or E.G.4.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to E.G.4 requirements. At such time, authorized discharges become subject to all other applicable requirements in the permit, including the technology-based effluent limits or Schedule B, monitoring or inspection frequency in Schedule B and Sector E.G.5, E.G.7 and E.G.8.

E.G.4.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in E.G.3. These limits supersede the technology-based limits listed in Schedule A.1.

E.G.4.1.1 *Erosion and sediment control installation requirements*.

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPCP must be installed and made operational as soon as conditions on each portion of the site allows.

E.G.4.1.2 *Erosion and sediment control maintenance requirements*. You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater controls must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon as practicable.

E.G.4.1.3 *Perimeter controls*. You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

E.G.4.1.4 *Sediment track-out*. For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.
- Note: DEQ recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of E.G.4.1.4.

E.G.4.1.5 *Soil or sediment stockpiles*. You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

E.G.4.1.6 *Sediment basins*. If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

E.G.4.1.7 *Minimize dust*. You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

E.G.4.1.8 *Restrictions on use of treatment chemicals*. If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPCP documentation.

If you plan to use cationic treatment chemicals, you are ineligible for coverage under this permit, unless you notify your applicable DEQ regional office or agent in advance and receive authorization under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

E.G.4.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in E.G.3.2(a) (i.e., not applicable to construction of staging areas for structures and access roads as defined in E.G.3.2(b)).* You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance) (although you are encouraged to do so within the active mining area, where appropriate):

- *Temporary stabilization of disturbed areas*. Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.
- *Final stabilization of disturbed areas*. Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)), have permanently ceased but in no case more than 7 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing

conditions, where initiating perennial vegetative stabilization measures is not possible within 7 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

E.G.4.2 *Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads*. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in E.G.3.2(b). These limits supersede the technology-based limits listed in Schedule B and E.G.5 of this sector. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)).

E.G.4.2.1 *Area of disturbance*. You must minimize the amount of soil exposed during construction activities.

E.G.4.2.2 *Erosion and sediment control design requirements*. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from earth-disturbing activities. Account for the following factors in designing your erosion and sediment controls:
  - The expected amount, frequency, intensity and duration of precipitation;
  - The nature of stormwater discharge and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
  - The range of soil particle sizes expected to be present on the site.
- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

E.G.4.2.3 *Natural Buffers*. For any stormwater discharges from earth-disturbing activities within 50 feet of a waters of the state, you must comply with one of the following compliance alternatives:

1. Maintain a 50-foot undisturbed natural buffer between earth-disturbing activities and the waters of the state; or
2. Provide and maintain less than 50 feet of an undisturbed natural buffer zone and supplement by installing erosion and sediment controls that achieve a modeled or calculated sediment load reduction equivalent to a undisturbed natural buffer zone; or

3. If infeasible to provide and maintain an undisturbed natural buffer zone of any size, implement erosion and sediment controls that achieve a modeled or calculated sediment load reduction equivalent to a 50-foot undisturbed natural buffer zone. Ensure all discharges are treated by control measures prior to entering the natural buffer.
4. Delineate and clearly mark off all natural buffers.

There are exceptions when buffer requirements do not apply:

- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for a water-dependent structure or earth-disturbing approved under a CWA section 404 permit.

E.G.4.2.4 *Soil or sediment stockpiles*. In addition to the requirements in E.G.4.1.5, you must locate any piles outside of any natural buffers established under E.G.4.2.3.

E.G.4.2.5 *Sediment basins*. In addition to the requirements in E.G.4.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under E.G.4.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

E.G.4.2.6 *Native topsoil preservation*. You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

E.G.4.2.7 *Steep slopes*. You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

E.G.4.2.8 *Soil compaction*. Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/ equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

E.G.4.2.9 *Dewatering Practices*. You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems).

Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
  - No discharging visible floating solids or foam;
  - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);

- Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the state be considered part of the treatment area;
- Implement velocity dissipation devices at all points where dewatering water is discharged;
- Haul backwash water away for disposal or return it to the beginning of the treatment process; and
- Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturers' specifications.

- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in E.G.4.1.8.

E.G.4.2.10 *Pollution prevention requirements*.

- Prohibited discharges:
  - Turbid discharge or discharge of sediment;
  - Wastewater from washout of concrete;
  - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other materials;
  - Wastewater from wheel wash;
  - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
  - Soaps, solvents, or detergents used in vehicle or equipment washing;
  - Toxic or hazardous substances from a spill or other release.
  - Design and location requirements: Minimize the discharge of pollutants from pollutant sources by:
- *Minimizing exposure*;
  - Using secondary containment, spill kits, or other equivalent measures;
  - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
  - Cleaning up spills immediately (do not clean by hosing area down).
- *Pollution prevention requirements for wash waters*: Minimize the discharge of pollutants from equipment and vehicle washing and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
- *Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes*: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

E.G.4.2.11 *Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in E.G.3.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in E.G.3.2(a)).* You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of

construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
  - Seed or plant the area, and provide temporary cover to protect the planted area;
  - Once established, vegetation must be uniform (evenly distributed without large bare areas) perennial vegetation, which provides 70 percent or more coverage based on density of native vegetation.
- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
  - Install or apply all non-vegetative measures;
  - Cover all areas of exposed soil.

  Note: For the purposes of this permit, DEQ will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in #1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid or drought-stricken areas:
  - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
  - Initiate vegetative stabilization as soon as conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Cover planted or seeded area with bio or photo degradable erosion controls designed to prevent erosion without active maintenance.
- Sites affected by severe storm events or other unforeseen circumstances:
  - Initiate vegetative stabilization as soon conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Add a suitable interim measures (such as mulch or bark) are in place if 70 percent coverage of vegetation is expected to expand.

E.G.4.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in E.G.3.2(a) and E.G.3.2(b), in addition to the water quality-based standards in Schedule A.3.

Stricter requirements apply if your site will discharge to an impaired waters that are listed for turbidity or sedimentation or have an EPA-approved TMDL for sedimentation or turbidity:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.

- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

E.G.4.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following requirements supersede the inspection requirements in Schedule B and E.G.7 for earth-disturbing activities conducted prior to active mining activities defined in E.G.3.2(a) and E.G.3.2(b).

E.G.4.4.1 *Inspection frequency*

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day.

Note: You are required to specify in your SWPCP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

E.G.4.4.2 *Reductions in inspection frequency*.

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to E.G.4.1.9 or E.G.4.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

E.G.4.4.3 *Areas to be inspected*. You must at a minimum inspect the all of the following areas:

- Disturbed areas;

- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

E.G.4.4.4 *What to check for during inspections*. At a minimum you must check:

- Whether all stormwater controls are installed, operational and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.
- If a discharge is occurring, check:
- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

E.G.4.4.5 *Inspection report*. Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

E.G.5 Technology-Based Effluent Limits for Active Mining Activities

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in E.G.3.2(a) or E.G.3.2(b).

E.G.5.1 *Employee training*. (See also Schedule A.1.j) Conduct employee training at least annually at active and temporarily inactive facilities.

E.G.5.2 *Stormwater controls.* Apart from the control measures you implement to meet Schedule A technology-based effluent limits, where necessary to minimize pollutant discharges in stormwater, implement the following control measures at your site. The potential pollutants identified in E.G.6.3 shall determine the priority and appropriateness of the control measures selected. For mines subject to dust control requirements under DEQ or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Schedule A.1.f.
Stormwater diversions: Divert stormwater away from potential pollutant sources through implementation of control measures such as the following, where determined to be feasible including: interceptor or diversion controls (e.g., dikes, swales, curbs, berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open-top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector and culverts); or their equivalents.
Capping: When capping is necessary to minimize pollutant discharges in stormwater, identify the source being capped and the material used to construct the cap.
Treatment: If treatment of stormwater (e.g., chemical or physical systems, oil - water separators, artificial wetlands) is necessary to protect water quality, describe the type and location of treatment used. Passive and/or active treatment of stormwater discharge is encouraged, where

feasible. Treated stormwater may be discharged as a stormwater source regulated under this permit provided the discharge is not combined with discharges subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

E.G.5.3 *Discharge testing.* Test or evaluate all off-site discharge points covered under this permit for the presence of specific mining-related but unauthorized non-stormwater discharges such as seeps or adit discharges, or discharges subject to effluent limitations guidelines (40 CFR Part 440), mine drainage or process water. Alternatively (if applicable), you may keep a certification with your SWPCP consistent with E.G.6.6.

E.G.6 Additional SWPCP Requirements for Mining Operations

Note: The requirements in E.G.6 are not applicable to inactive metal mining facilities. Some requirements may be already a requirement under Schedule A.10.

E.G.6.1 *Nature of industrial activities.* Briefly document in your SWPCP the mining and associated activities that can potentially affect the stormwater discharges covered by this permit, including a general description of the location of the site relative to major transportation routes and communities.

E.G.6.2 *Site map.* Document in your SWPCP the locations of the following (as appropriate): mining or milling site boundaries; access and haul roads; outline of the drainage areas of each stormwater discharge point within the facility with indications of the types of discharges from the drainage areas; location(s) of all permitted discharges covered under an individual NPDES permit; outdoor equipment storage, fueling, and maintenance areas; materials handling areas; outdoor manufacturing, outdoor storage, and material disposal areas; outdoor chemicals and explosives storage areas; overburden, materials, soils, or waste storage areas; location of mine drainage (where water leaves mine) or other process water; tailings piles and ponds (including proposed ones); heap leach pads; off-site points of discharge for mine drainage and process water; surface waters; boundary of tributary areas that are subject to effluent limitations guidelines; and location(s) of reclaimed areas.

E.G.6.3 *Potential pollutant sources*. For each area of the mine or mill site where stormwater discharges associated with industrial activities occur, identify the types of pollutants (e.g., heavy metals, sediment) likely to be present in significant amounts. Consider these factors: the mineralogy of the ore and waste rock (e.g., acid forming); toxicity and quantity of chemicals used, produced, or discharged; the likelihood of contact with stormwater; vegetation of site (if any); and history of significant leaks or spills of toxic or hazardous pollutants. Also include a summary of any existing ore or waste rock or overburden characterization data and test results for potential generation of acid rock. If any new data is acquired due to changes in ore type being mined, update your SWPCP with this information.

E.G.6.4 *Documentation of control measures.* Document all control measures that you implement consistent with E.G.5.2. If control measures are implemented or planned but are not listed in E.G.5.2 (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in your SWPCP. If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

E.G.6.5 *Employee training.* All employee training(s) must be documented in the SWPCP.

E.G.6.6 *Certification of permit coverage for commingled non-stormwater discharges*. If you are able, consistent with E.G.5.3 above, to certify that a particular discharge composed of commingled stormwater and non-stormwater is covered under a separate NPDES permit, and that permit subjects the non-stormwater portion to effluent limitations prior to any commingling, retain

such certification with your SWPCP. This certification must identify the non-stormwater discharges, the applicable NPDES permit(s), the effluent limitations placed on the non-stormwater discharge by the permit(s), and the points at which the limitations are applied.

E.G.7 Additional Inspection Requirements

Except for earth-disturbing activities conducted prior to active mining activities as defined in E.G.3.2(a) and E.G.3.2(b), which are subject to E.G.4.4, inspect sites at least monthly unless adverse weather conditions make the site inaccessible. See E.G.8.4 for inspection requirements for inactive and unstaffed sites.

E.G.8 Additional Inspection Requirements for Inactive Operations

Once every three years an annual inspection must be performed by a Registered Professional Engineer.

E.G.9 Monitoring and Reporting Requirements. (See also Schedule B)

Note: There are no monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

E.G.9.1 Benchmark Monitoring for Active Copper Ore Mining and Dressing Facilities. Table E.G-1 identifies benchmarks that apply to active copper ore mining and dressing facilities. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.G-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Active Copper Ore Mining and Dressing Facilities (SIC code 1021)	Nitrate plus Nitrite Nitrogen	10 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark

E.G.9.2 *Benchmark Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities*. For discharges from waste rock and overburden piles, perform benchmark monitoring once in the first year for the parameters listed in Table E.G-2, and twice annually in all subsequent years of coverage under this permit for any parameters for which the benchmark has been exceeded. You are also required to conduct analytic monitoring for the parameters listed in Table E.G-3 in accordance with the requirements in E.G.8.3. DEQ may also notify you that you must perform additional monitoring to accurately characterize the quality and quantity of pollutants discharged from your waste rock and overburden piles.

Table E.G-2

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Iron Ores; Copper Ores; Lead and Zinc Ores; Gold and Silver Ores; Ferroalloy Ores, Except Vanadium; and Miscellaneous Metal Ores (SIC codes 1011, 1021, 1031, 1041, 1044, 1061, 1081, 1094, 1099)	Turbidity	50 NTU
	pH	Statewide benchmark
	Total Antimony	9.0 mg/L
	Total Arsenic freshwater	0.34 mg/L
	Total Arsenic saltwater	0.069 mg/L
	Total Beryllium	0.13 mg/L
	Total Cadmium freshwater	See Table 10
	Total Cadmium saltwater	0.040 mg/L
	Total copper freshwater	Statewide benchmark
	Total copper saltwater	0.025 mg/L
	Total lead freshwater	Statewide benchmark
	Total lead saltwater	1.10 mg/L
	Total Mercury freshwater	0.0024 mg/L
	Total Mercury saltwater	0.0021 mg/L
	Total Nickel freshwater	See Table 10
	Total Nickel saltwater	0.074 mg/L
	Total Selenium freshwater	0.013 mg/L
	Total Selenium saltwater	0.29 mg/L
	Total Silver freshwater	See Table 10
	Total Silver saltwater	0.0019
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

E.G.9.3 *Additional Analytic Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities.* In addition to the monitoring required in E.G.8.2 for discharges from waste rock and overburden piles, you must also conduct monitoring for additional parameters based on the type of ore you mine at your site. The schedule for monitoring is the same as E.G.9.2: once the first year for all parameters in Table E.G.3 (except radium and uranium) and twice annually in all subsequent years of coverage for any parameters

monitoring results have exceeded the benchmarks. Where a parameter in Table E.G-3 is the same as a pollutant you are required to monitor for in Table E.G-2 (i.e., for all of the metals), you must use the corresponding benchmark in Table E.G-2 and you may use any monitoring results conducted for E.G.8.2 to satisfy the monitoring requirement for that parameter for E.G.8.3. For radium and uranium, which do not have corresponding benchmarks in Table E.G-2, there are no applicable benchmarks. The frequency of monitoring for radium and uranium is quarterly for the first four quarters after which no monitoring is required.

Table E.G-3 Additional Monitoring Requirements for Discharges from Waste Rock and Overburden Piles

Supplemental Requirements			
Type of Ore Mined	**Pollutants of Concern**		
	Total Suspended Solids (TSS)	**pH**	**Metals, Total**
Tungsten Ore	X	X	Arsenic, Cadmium (H), Copper, Lead (H), Zinc (H)
Nickel Ore	X	X	Arsenic, Cadmium (H), Copper, Lead (H), Zinc (H)
Aluminum Ore	X	X	Iron
Mercury Ore	X	X	Nickel (H)
Iron Ore	X	X	Iron (Dissolved)
Platinum Ore			Cadmium (H), Copper, Mercury, Lead (H), Zinc (H)
Titanium Ore	X	X	Iron, Nickel (H), Zinc (H)
Vanadium Ore	X	X	Arsenic, Cadmium (H), Copper, Lead (H), Zinc (H)
Molybdenum	X	X	Arsenic, Cadmium (H), Copper, Lead (H), Mercury, Zinc (H)
Uranium, Radium, and Vanadium Ore	X	X	Chemical Oxygen Demand, Arsenic, Radium (Dissolved and Total), Uranium, Zinc (H)

Note: An "X" indicated for TSS and/or pH means that you are required to monitor for those parameters. (H) indicates that hardness must also be measured when this pollutant is measured.

E.G.9.4 *Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirements for Monthly Visual Assessments and Routine Facility Inspections*. As a Sector G facility, if you are seeking to exercise a monitoring or inspection waiver, you are conditionally exempt from the requirement to certify that "there are no industrial materials or activities exposed to stormwater" in Schedule B.9.a.iv of the permit. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the monitoring and inspection requirements; and
- DEQ retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Table E.G-4 Applicability of the Permit to Stormwater Discharge From Active Mining and Dressing Sites, Temporarily Inactive Sites, and Sites Undergoing Reclamation

Discharge/Source of Discharge	Note/Comment
Piles	
Waste rock/overburden	If composed entirely of stormwater and not combining with mine drainage. See note below.
Topsoil	--
Roads constructed of waste rock or spent ore	
Onsite haul roads	If composed entirely of stormwater and not combining with mine drainage. See note below.
Offsite haul and access roads	--
Roads not constructed of waste rock or spent ore	
Onsite haul roads	Except if mine drainage is used for dust control
Offsite haul and access roads	--
Milling/concentrating	
Discharge from tailings dams and dikes when constructed of waste rock/tailings	Except if process fluids are present and only if composed entirely of stormwater and not combining with mine drainage. See Note below.
Discharge from tailings dams/dikes when not constructed of waste rock and tailings	Except if process fluids are present
Concentration building	If stormwater only and no contact with piles
Mill site	If stormwater only and no contact with piles
Ancillary areas	
Office and administrative building and housing	If mixed with stormwater from the industrial area
Chemical storage area	--
Docking facility	Except if excessive contact with waste product that would otherwise constitute mine drainage
Explosive storage	--
Fuel storage (oil tanks/coal piles)	--
Vehicle and equipment maintenance area/building	--
Parking areas	But coverage unnecessary if only employee and visitor-type parking
Power plant	
Truck wash area	Except when excessive contact with waste product that would otherwise constitute mine drainage
Reclamation-related areas	
Any disturbed area (unreclaimed)	Only if not in active mining area
Reclaimed areas released from reclamation requirements prior to Dec. 17, 1990	--
Partially/inadequately reclaimed areas or areas not released from reclamation requirements	--

Note: Stormwater discharge from these sources are subject to the NPDES program for stormwater unless mixed with discharges subject to 40 CFR Part 440 that are regulated by another permit prior to mixing. Non-stormwater discharges from these sources are subject to NPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR Part 440. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440, as well as meeting other eligibility criteria contained in Part 1.1 of the permit. Operators bear the initial responsibility for determining the applicable technology-based standard for such discharges.

E.G.10. Termination of Permit Coverage

E.G.10.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed as defined in E.G.3.3.

E.G.10.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater discharge that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector H – Coal Mines and Coal Mining-Related Facilities

E.H.1 Definitions

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

E.H.1.1 *Mining operations* - For this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

E.H.1.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:
a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and
b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional technology based effluent limits in E.H.2.2.

E.H.1.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and preparation of coal; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in E.H.2 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

E.H.1.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of coal is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.
Note: Earth-disturbing activities described in the definition in E.H.1.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in E.H.2.

E.H.1.5 *Inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but there are no active mining operations occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive coal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the

extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

E.H.1.6 *Temporarily inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable state or federal agency.

E.H.2 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in E.H.1.2) are covered under this permit. For such earth-disturbing activities, you must comply with all applicable requirements in technology-based effluent limits in E.H.3 and Schedule A, the inspection and monitoring requirements in Schedule B and in E.H.5 and E.H.6 Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in E.H.2.1.9 or E.H.2.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to the E.H.2 requirements. At such time, authorized discharges become subject to all other applicable requirements in the permit, including the technology based effluent limits in limits in E.H.3 and Schedule A, the inspection and monitoring requirements in Schedule B and in E.H.5 and E.H.6.

E.H.2.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b). These limits supersede the technology-based effluent limits listed in Schedule A.1.

E.H.2.1.1 *Erosion and sediment control installation requirements.*

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPCP must be installed and made operational as soon as conditions on each portion of the site allows.

E.H.2.1.2 *Erosion and sediment control maintenance requirements*. You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon as practicable.

E.H.2.1.3 *Perimeter controls*. You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

E.H.2.1.4 *Sediment track-out*. For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Use appropriate stabilization techniques to minimize sediment track-out from vehicles and equipment prior to exit;
- Use additional controls to remove sediment from vehicle and equipment tires prior to exit, where necessary;
- Remove sediment that is tracked out onto paved roads by end of the work day.

Note: DEQ recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of E.H.2.1.4.

E.H.2.1.5 *Soil or sediment stockpiles*. You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

E.H.2.1.6 *Sediment basins*. If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

E.H.2.1.7 *Minimize dust*. You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

E.H.2.1.8 *Restrictions on use of treatment chemicals*. If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPCP documentation.

If you plan to use cationic treatment chemicals, you are ineligible for coverage under this permit, unless you notify your applicable DEQ regional office or agent in advance and the DEQ regional office or agent authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

E.H.2.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in E.H.1.2(a) (i.e., not applicable to construction*

of staging areas for structures and access roads as defined in E.H.1.2(b)). You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- *Temporary stabilization of disturbed areas*. Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.
- *Final stabilization of disturbed areas.* Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)) have permanently ceased, but in no case more than 7 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 7 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

E.H.2.2 *Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads*. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in E.H.1.2(b). These limits supersede the technology-based limits listed in Schedule A and E.H.3. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)).

E.H.2.2.1 *Area of disturbance*. You must minimize the amount of soil exposed during construction activities.

E.H.2.2.2 *Erosion and sediment control design requirements*. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from construction activities. Account for the following factors in designing your erosion and sediment controls:
  - The expected amount, frequency, intensity and duration of precipitation;

- The nature of stormwater discharge and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
- The range of soil particle sizes expected to be present on the site.

- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

E.H.2.2.3 *Natural Buffers*. For any stormwater discharges from earth-disturbing activities within 50 feet of a waters of the state, you must comply with one of the following compliance alternatives:

1. Maintain a 50-foot undisturbed natural buffer between earth-disturbing activities and the waters of the state; or
2. Provide and maintain less than 50 feet of an undisturbed natural buffer zone and supplement by installing erosion and sediment controls that achieve a modeled or calculated sediment load reduction equivalent to a undisturbed natural buffer zone; or
3. If infeasible to provide and maintain an undisturbed natural buffer zone of any size, implement erosion and sediment controls that achieve a modeled or calculated sediment load reduction equivalent to a 50-foot undisturbed natural buffer zone. Ensure all discharges are treated by control measures prior to entering the natural buffer.
4. There are exceptions when buffer requirements do not apply:

- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for a water-dependent structure or earth-disturbing approved under a CWA section 404 permit.

E.H.2.2.4 *Soil or sediment stockpiles*. In addition to the requirements in E.H.2.1.5, you must locate any piles outside of any natural buffers established under E.H.2.2.3.

E.H.2.2.5 *Sediment basins.* In addition to the requirements in E.H.2.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under E.H.2.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

E.H.2.2.6 *Native topsoil preservation*. You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the

topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

E.H.2.2.7 *Steep slopes*. You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

E.H.2.2.8 *Soil compaction*. Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/ equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

E.H.2.2.9 *Dewatering Practices*. You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems). Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
  - No discharging visible floating solids or foam;
  - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
  - Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the state be considered part of the treatment area;
  - Implement velocity dissipation devices at all points where dewatering water is discharged;
  - Haul backwash water away for disposal or return it to the beginning of the treatment process; and
  - Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturers' specifications.
- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in E.H.2.1.8.

E.H.2.2.10 *Pollution prevention requirements*.

- Prohibited discharges:
  - Turbid discharge or discharge of sediment;
  - Wastewater from washout of concrete;

- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other materials;
- Wastewater from wheel wash;
- Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
- Soaps, solvents, or detergents used in vehicle or equipment washing;
- Toxic or hazardous substances from a spill or other release.
- Design and location requirements: Minimize the discharge of pollutants from pollutant sources by:

- Design and location requirements: Minimize the discharge of pollutants from pollutant sources by:
  - Minimizing exposure;
  - Using secondary containment, spill kits, or other equivalent measures;
  - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
  - Cleaning up spills immediately (do not clean by hosing area down).
- Pollution prevention requirements for wash waters: Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

E.H.2.2.11 *Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in E.H.1.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in E.H.1.2(a)).* You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
  - Seed or plant the area, and provide temporary cover to protect the planted area;
  - Once established, vegetation must be uniform (evenly distributed without large bare areas) perennial vegetation, which provides 70 percent or more coverage based on density of native vegetation.
- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:

- Install or apply all non-vegetative measures;
- Cover all areas of exposed soil.

Note: For the purposes of this permit, DEQ will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in #1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid or drought-stricken areas:
  - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
  - Initiate vegetative stabilization as soon as conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Cover planted or seeded area with bio or photo degradable erosion controls designed to prevent erosion without active maintenance.
- Sites affected by severe storm events or other unforeseen circumstances:
  - Initiate vegetative stabilization as soon conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Add a suitable interim measures (such as mulch or bark) are in place if 70 percent coverage of vegetation is expected to expand.

E.H.2.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b), in addition to the water quality standards in Schedule A.3.

Stricter requirements apply if your site will discharge to an impaired waters that are listed for turbidity or sedimentation or have an EPA-approved TMDL for sedimentation or turbidity:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.
- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

E.H.2.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following requirements supersede the inspections requirements in Schedule B and E.H.7 of the permit for earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b).

E.H.2.4.1 *Inspection Frequency*

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.
  - Note:
  - Inspections only required during working hours;

- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that.

Note: You are required to specify in your SWPCP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

E.H.2.4.2 *Reductions in Inspection Frequency*

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to E.H.2.1.9 or E.H.2.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

E.H.2.4.3 *Areas to be Inspected*. You must at a minimum inspect the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

E.H.2.4.4 *What to Check for During Inspections*. At a minimum you must check:

- Whether all stormwater controls are installed, operational, and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.

If a discharge is occurring:

- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

E.H.2.4.5 *Inspection Report*. Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

E.H.2.5 *Cessation of Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The requirements in E.H.2 no longer apply for any earth-disturbing activities conducted prior to active mining activities as defined in E.H.1.2(a) or E.H.1.2(b) where:

1. Earth-disturbing activities have ceased; and
2. Stabilization has been met consistent with E.H.2.1.9 or E.H.2.2.11 (not required for areas where active mining activities will occur).

E.H.3 Technology-Based Effluent Limits for Active Mining Activities

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in E.H.1.2(a) or E.H.1.2(b).

E.H.3.1 *Good Housekeeping Measures.* As part of your good housekeeping program, in order to minimize discharges of pollutants in stormwater, implement control measures such as the following, where determined to be feasible including: using sweepers and covered storage; watering haul roads to minimize dust generation; and conserving vegetation to minimize erosion. For mines subject to dust control requirements under state or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Schedule A.1.f.

E.H.3.2 *Preventive Maintenance.* Perform inspections or other equivalent measures of storage tanks and pressure lines of fuels, lubricants, hydraulic fluid, and slurry to prevent leaks due to deterioration or faulty connections.

E.H.4 Additional SWPCP Requirements for Mining Operations

Note: The requirements in E.H.6 are not applicable to inactive coal mining facilities. Some requirements may be already a requirement under Schedule A.10.

E.H.4.1 *Other Applicable Regulations.* Most active coal mining-related areas (SIC Codes 1221-1241) are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to most coal-producing states to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of stormwater-related pollutant discharges must be addressed and then documented with the SWPCP (directly or by reference).

E.H.4.2 *Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; inactive mines and related areas; acidic spoil, refuse, or unreclaimed disturbed areas; and liquid storage tanks containing pollutants such as caustics, hydraulic fluids, and lubricants.

E.H.4.3 *Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them: truck traffic on haul roads and resulting generation of sediment subject to discharge and dust generation; fuel or other liquid storage; pressure lines containing slurry, hydraulic fluid, or other potential harmful liquids; and loading or temporary storage of acidic refuse or spoil.

E.H.4.4 If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

E.H.5 Additional Inspection Requirements

E.H.5.1 *Inspections of Active Mining-Related Areas.* Except for earth-disturbing activities conducted prior to active mining activities as defined in E.H.1.2(a) and E.H.1.2(b), which are subject to E.H.2.4, perform routine inspections of active mining areas covered by this permit, corresponding with the inspections as performed by SMCRA inspectors, of all mining-related areas required by SMCRA. Also maintain the records of the SMCRA authority representative. See E.H.8.1 for inspection requirements for inactive and unstaffed sties.

E.H.5.2 *Sediment and Erosion Control.* As indicated in E.H.4.1, SMCRA requirements regarding sediment and erosion control measures must be complied with for those areas subject to SMCRA authority, including inspection requirements.

E.H.5.3 *Routine Site Inspections.* Your inspection program must include inspections for pollutants entering the drainage system from activities located on or near coal mining-related areas. Among the areas to be inspected are haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; and inactive mines and related areas.

E.H.6 Sector-Specific Benchmarks

Table E.H-1 identifies benchmarks that apply to the specific subsectors of Sector H. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.
Note: There are no monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

Table E.H-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Coal Mines and Related Areas (SIC codes 1221-1241)	Total Aluminum	1.10 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark

E.H.6.1 *Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirements for Monthly Visual Assessments and Routine Facility Inspections*. As a Sector H facility, if you are seeking to exercise a monitoring or inspection waiver, you are conditionally exempt from the requirement to certify that "there are no industrial materials or activities exposed to stormwater" in Schedule B.9.a.iv of the permit. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the monitoring and inspection requirements; and
- DEQ retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Subject to the two conditions above, if your facility is inactive and unstaffed, you are waived from the requirement to conduct routine facility inspections, monthly visual assessments, and benchmark and impaired waters monitoring. You are encouraged to inspect your site more frequently where you have reason to believe that severe weather or natural disasters may have damaged control measures or increased discharges.

E.H.7 Termination of Permit Coverage

E.H.7.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed.

E.H.7.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to exceedance of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector I – Oil and Gas Extraction

E.I.1 Additional Technology-Based Effluent Limits

E.I.1.1 *Vegetative Controls.* Implement vegetative practices designed to preserve existing vegetation, where attainable, and revegetate open areas as soon as practicable after grade drilling. Consider the following (or equivalent measures): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, and tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

E.I.2 Additional SWPCP Requirement

E.I.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: Reportable Quantity (RQ) releases; locations used for the treatment, storage, or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for "No Discharge" in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the "No Discharge" requirements.

E.I.2.2 *Potential Pollutant Sources.* Also document in your SWPCP the following sources and activities that have potential pollutants associated with them: chemical, cement, mud, or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the reportable quantity (RQ) release that triggered the permit application requirements: the nature of the release (e.g., spill of oil from a drum storage area), amount of oil or hazardous substance released, amount of substance recovered, date of the release, cause of the release (e.g., poor handling techniques and lack of containment in the area), areas affected by the release (i.e., land and water), procedure to clean up release, actions or procedures implemented to prevent or improve response to a release, and remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).

E.I.2.3 *Erosion and Sedimentation Control.* Unless covered by the NPDES Construction Stormwater 1200-C General Permit, the additional documentation requirements for sediment and erosion controls for well drillings and sand/shale mining areas include the following:

E.I.2.3.1 *Site Description.* Also include a description in your SWPCP of the nature of the exploration activity, estimates of the total area of site and area disturbed due to exploration activity, an estimate of runoff coefficient of the site, a site drainage map, including approximate slopes, and the names of all receiving waters.

E.I.2.3.2 *Vegetative Controls.* Document vegetative practices used in the SWPCP.

E.I.3 Additional Inspection Requirements.

All erosion and sediment controls must be inspected either: 1) every 7 days; or 2) once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector K – Hazardous Waste Treatment, Storage, or Disposal Facilities

E.K.1 Definitions

K.1.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in E.K.1.4. Some specific areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

K.1.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

K.1.3 *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, but that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, salt bed formation, underground mine, or cave as these terms are defined in 40 CFR 257.2, 258.2, and 260.10.

K1.4 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category), all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated stormwater, and contact wash water from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

K.1.5 *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

K.1.6 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in E.K.1.4. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

E.K.2 Sector-Specific Benchmarks

Table E.K-1 identifies benchmarks that apply to the specific subsectors of Sector K. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.K-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
ALL - Industrial Activity Code "HZ" Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A.	Ammonia	2.14 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Total Arsenic freshwater	0.34 mg/L
	Total Arsenic saltwater	0.069 mg/L
	Total Cadmium freshwater	See Table 10
	Total Cadmium saltwater	0.04 mg/L
	Total Cyanide freshwater	0.022 mg/ L
	Total Cyanide saltwater	0.001 mg/L
	E. coli	406 organisms/100 mL
	Total Mercury freshwater	0.0024 mg/L
	Total Mercury saltwater	0.0021 mg/L
	Total Selenium freshwater	0.013 mg/L
	Total Selenium saltwater	0.29 mg/L
	Total Silver freshwater	See Table 10
	Total Silver saltwater	0.0019 mg/L

E.K.3 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.K-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.K-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart A.	Biochemical Oxygen Demand (BOD_5)	220 mg/L, daily maximum
		56 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum

Table E.K-2[1]

Industrial Activity	Parameter	Effluent Limit
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.042 mg/L, daily maximum
		0.019 mg/L, monthly avg. maximum
	Aniline	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Benzoic Acid	0.119 mg/L, daily maximum
		0.073 mg/L, monthly avg. maximum
	Naphthalene	0.059 mg/L, daily maximum
		0.022 mg/L, monthly avg. maximum
	p-Cresol	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Phenol	0.048 mg/L, daily maximum
		0.029 mg/L, monthly avg. maximum
	Pyridine	0.072 mg/L, daily maximum
		0.025 mg/L, monthly avg. maximum
	Total Arsenic	1.1 mg/L, daily maximum
		0.54 mg/L, monthly avg. maximum
	Total Chromium	1.1 mg/L, daily maximum
		0.46 mg/L, monthly avg. maximum
	Total Zinc	0.535 mg/L, daily maximum
		0.296 mg/L, monthly avg. maximum
	pH	Within the range of 6-9 standard pH units (s.u.)

[1] Monitor semi-annually. As set forth at 40 CFR Part 445 Subpart A, these numeric limitations apply to contaminated stormwater discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector L – Landfills, Land Application Sites, and Open Dumps

E.L.1 Definitions

E.L.1.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

E.L.1.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

E.L.1.3 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate; gas collection condensate; drained free liquids; laboratory-derived wastewater; contaminated stormwater; and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

E.L.1.4 *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

E.L.1.5 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

E.L.2 Additional Technology-Based Effluent Limits

E.L.2.1 *Preventive Maintenance Program.* As part of your preventive maintenance program, maintain the following: all elements of leachate collection and treatment systems, to prevent commingling of leachate with stormwater; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary), to minimize the effects of settlement, sinking, and erosion.

E.L.2.2 *Erosion and Sedimentation Control*. Provide temporary stabilization (e.g., temporary seeding, mulching, and placing geotextiles on the inactive portions of stockpiles) for the following: materials stockpiled for daily, intermediate, and final cover; inactive areas of the landfill or open dump; landfills or open dump areas that have gotten final covers but where vegetation has yet to establish itself; and land application sites where waste application has been completed but final vegetation has not yet been established.

E.L.2.3 *Unauthorized Discharge Test Certification*. The discharge test and certification must also be conducted for the presence of leachate and vehicle washwater.

E.L.3 Additional SWPCP Requirements

E.L.3.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred,

locations of any known leachate springs or other areas where uncontrolled leachate may commingle with discharge, and leachate collection and handling systems.

E.L.3.2 *Summary of Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide, and pesticide application; earth and soil moving; waste hauling and loading or unloading; outdoor storage of significant materials, including daily, interim, and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; and failure or leaks from leachate collection and treatment systems.

E.L.4 Additional Inspection Requirements

E.L.4.1 *Inspections of Active Sites.* Except in arid and semi-arid climates, inspect operating landfills, open dumps, and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized; active land application areas, areas used for storage of material and wastes that are exposed to precipitation, stabilization, and structural control measures; leachate collection and treatment systems; and locations where equipment and waste trucks enter and exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is arid or semi-arid, conduct inspections at least once every month.

E.L.4.2 *Inspections of Inactive Sites.* Inspect inactive landfills, open dumps, and land application sites at least monthly. Qualified personnel must inspect landfill (or open dump) stabilization and structural erosion control measures, leachate collection and treatment systems, and all closed land application areas.

E.L.5 Additional Post-Authorization Documentation Requirements

E.L.5.1 *Recordkeeping and Internal Reporting*. Keep records with your SWPCP of the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.

E.L.6 Sector-Specific Benchmarks

Table E.L-1 identifies benchmarks that apply to the specific subsectors of Sector L. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.L-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration[1]
All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60 (Industrial Activity Code "LF")	Total Suspended Solids (TSS)	Statewide benchmark
	E. coli	406 organisms/100 mL

[1]Benchmark monitoring required only for discharges not subject to effluent limitations in 40 CFR Part 445 Subpart B (see Table L-2 below).

E.L.7. Effluent Limitations Based on Effluent Limitations Guidelines

Table E.L-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.L-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from non-hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart B.	Biochemical Oxygen Demand (BOD_5)	140 mg/L, daily maximum
		37 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.033 mg/L, daily maximum
		0.016 mg/L monthly avg. maximum
	Benzoic Acid	0.12 mg/L, daily maximum
		0.071 mg/L, monthly avg. maximum
	p-Cresol	0.025 mg/L, daily maximum
		0.014 mg/L, monthly avg. maximum
	Phenol	0.026 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Total Zinc	0.20 mg/L, daily maximum
		0.11 mg/L, monthly avg. maximum
	pH	Within the range of 6-9 standard pH units (s.u.)

[1] Monitor semi-annually. As set forth at 40 CFR Part 445 Subpart B, these numeric limitations apply to contaminated stormwater discharges from MSWLFs that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector M – Motor Vehicle Parts, Used

E.M.1 Additional Technology-Based Effluent Limits

E.M.1.1 *Spill and Leak Prevention Procedures.* Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as feasible), or employ some other equivalent means to prevent spills and leaks.

E.M.1.2 *Employee Training.* If applicable to your facility, address the following areas (at a minimum) in your employee training program: proper handling (collection, storage, and disposal) of oil, used mineral spirits, anti-freeze, mercury switches, and solvents.

E.M.1.3 *Management of Discharge.* Consider the following management practices: berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks, and above-ground liquid storage; installation of detention ponds; and installation of filtering devices and oil and water separators.

E.M.2 Additional SWPCP Requirements

E.M.2.1 *Drainage Area Site Map.* Identify locations used for dismantling, storage, and maintenance of used motor vehicle parts. Also identify where any of the following may be exposed to precipitation or stormwater: dismantling areas, parts (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers) storage areas, and liquid storage tanks and drums for fuel and other fluids.

E.M.2.2 *Potential Pollutant Sources.* Assess the potential for the following to contribute pollutants to stormwater discharges: vehicle storage areas, dismantling areas, parts storage areas (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers), and fueling stations.

E.M.3 Additional Inspection Requirements

Immediately (or as soon thereafter as feasible) inspect vehicles arriving at the site for leaks. Inspect monthly for signs of leakage all equipment containing oily parts, hydraulic fluids, any other types of fluids, or mercury switches. Also, inspect monthly for signs of leakage all vessels and areas where hazardous materials and general automotive fluids are stored, including, but not limited to, mercury switches, brake fluid, transmission fluid, radiator water, and antifreeze.

E.M.4 Sector-Specific Benchmarks

Table E.M-1 identifies benchmarks that apply to the specific subsectors of Sector M. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.M-1

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Automobile Salvage Yards (SIC code 5015)	Total Aluminum	1.10 mg/L
	Total Suspended Solids (TSS)	Total Suspended Solids (TSS)
	Total lead freshwater	Statewide benchmark
	Total lead saltwater	1.10 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector N – Scrap and Waste Materials

E.N.1 Additional Technology-Based Effluent Limits

E.N.1.1 *Scrap and Waste Recycling Facilities (Non-Source Separated, Nonliquid Recyclable Materials).* Requirements for facilities that receive, process, and do wholesale distribution of nonliquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). These facilities may receive both nonrecyclable and recyclable materials. This section is not intended for those facilities that accept recyclables only from primarily non-industrial and residential sources.

E.N.1.1.1 *Inbound Recyclable and Waste Material Control Program.* Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials. Following are some control measure options: (a) provide information and education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles before delivery to your facility; (b) establish procedures to minimize the potential of any residual fluids from coming into contact with precipitation or stormwater; (c) establish procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage, and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in E.N.3.1.6); (d) provide training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials; and (e) establish procedures to ensure that liquid wastes, including used oil, are stored in materially compatible and non-leaking containers and are disposed of or recycled in accordance with the Resource Conservation and Recovery Act (RCRA).

E.N.1.1.2 *Scrap and Waste Material Stockpiles and Storage (Outdoor).* Minimize contact of stormwater discharge with stockpiled materials, processed materials, and nonrecyclable wastes. Following are some control measure options: (a) permanent or semi-permanent covers; (b) sediment traps, vegetated swales and strips, catch basin filters, and sand filters to facilitate settling or filtering of pollutants; (c) dikes, berms, containment trenches, culverts, and surface grading to divert runoff from storage areas; (d) silt fencing; and (e) oil and water separators, sumps, and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).

E.N.1.1.3 *Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage).* Minimize contact of stormwater with residual cutting fluids by: (a) storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or (b) establishing dedicated containment areas for all turnings that have been exposed to cutting fluids. Any containment areas must be constructed of concrete, asphalt, or other equivalent types of impermeable material and include a barrier (e.g., berms, curbing, elevated pads) to prevent contact with stormwater run-on. Stormwater discharge from these areas can be discharged, provided that any discharge is first collected and treated by an oil and water separator or its equivalent. You must regularly maintain the oil and water separator (or its equivalent) and properly dispose of or recycle collected residual fluids.

E.N.1.1.4 *Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage).* Minimize stormwater discharge contact of residual liquids and particulate matter from materials stored indoors or under cover. Following are some control measure options: (a) good housekeeping measures, including the use of dry absorbents or wet vacuuming to contain, dispose of, or recycle residual liquids originating from recyclable containers, or mercury spill kits for spills from storage of mercury switches; (b) not allowing washwater from tipping floors or other processing areas to discharge to the storm sewer system; and (c) disconnecting or sealing off all floor drains connected to the storm sewer system.

E.N.1.1.5 *Scrap and Recyclable Waste Processing Areas.* Minimize stormwater discharge from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with stormwater (i.e., through good housekeeping, preventive maintenance, etc.). Following are some control measure options: (a) regularly inspect equipment for spills or leaks and malfunctioning, worn, or corroded parts or equipment; (b) establish a preventive maintenance program for processing equipment; (c) use dry-absorbents or other cleanup practices to collect and dispose of or recycle spilled or leaking fluids or use mercury spill kits for spills from storage of mercury switches; (d) on unattended hydraulic reservoirs over 150 gallons in capacity, install protection devices such as low-level alarms or equivalent devices, or secondary containment that can hold the entire volume of the reservoir; (e) containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials; (f) oil and water separators or sumps; (g) permanent or semi-permanent covers in processing areas where there are residual fluids and grease; (h) retention or detention ponds or basins; sediment traps, and vegetated swales or strips (for pollutant settling and filtration); (i) catch basin filters or sand filters.

E.N.1.1.6 *Scrap Lead-Acid Battery Program.* Properly handle, store, and dispose of scrap lead-acid batteries. Following are some control measure options (a) segregate scrap lead-acid batteries from other scrap materials; (b) properly handle, store, and dispose of cracked or broken batteries; (c) collect and dispose of leaking lead-acid battery fluid; (d) minimize or eliminate (if possible) exposure of scrap lead-acid batteries to precipitation or stormwater; and (e) provide employee training for the management of scrap batteries.

E.N.1.1.7 *Spill Prevention and Response Procedures*. (See also Schedule A.1.h) Install alarms and/or pump shutoff systems on outdoor equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used. Use a mercury spill kit for any release of mercury from switches, anti-lock brake systems, and switch storage areas.

E.N.1.1.8 *Supplier Notification Program.* As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or will be accepted only under certain conditions.

E.N.1.2 *Waste Recycling Facilities* (Liquid Recyclable Materials).

E.N.1.2.1 *Waste Material Storage (Indoor).* Minimize or eliminate contact between residual liquids from waste materials stored indoors and from stormwater. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and

Countermeasure (SPCC) plans required under 40 CFR Part 112. Following are some control measure options (a) procedures for material handling (including labeling and marking); (b) clean up spills and leaks with dry absorbent materials, a wet vacuum system; (c) appropriate containment structures (trenching, curbing, gutters, etc.); and (d) a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas. Drainage must be discharged to an appropriate treatment facility or sanitary sewer system, or otherwise disposed of properly. These discharges may require coverage under a separate NPDES wastewater permit or industrial user permit under the pretreatment program.

E.N.1.2.2 *Waste Material Storage (Outdoor).* Minimize stormwater discharge contact between stored residual liquids. The plan may refer to applicable portions of other existing plans, such as SPCC plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. Following are some control measure options (a) appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank, with sufficient extra capacity for precipitation; (b) drainage control and other diversionary structures; (c) corrosion protection and/or leak detection systems for storage tanks; and (d) dry-absorbent materials or a wet vacuum system to collect spills.

E.N.1.2.3 *Trucks and Rail Car Waste Transfer Areas.* Minimize pollutants in discharges from truck and rail car loading and unloading areas. Include measures to clean up minor spills and leaks resulting from the transfer of liquid wastes. Following are two control measure options: (a) containment and diversionary structures to minimize contact with precipitation, and (b) dry clean-up methods, wet vacuuming, roof coverings, or runoff controls.

E.N.1.3 *Recycling Facilities (Source-Separated Materials).* The following identifies considerations for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.

E.N.1.3.1 *Inbound Recyclable Material Control.* Minimize the chance of accepting nonrecyclables (e.g., hazardous materials) that could be a significant source of pollutants by conducting inspections of inbound materials. Following are some control measure options: (a) providing information and education measures to inform suppliers of recyclables about acceptable and non-acceptable materials, (b) training drivers responsible for pickup of recycled material, (c) clearly marking public drop-off containers regarding which materials can be accepted, (d) rejecting nonrecyclable wastes or household hazardous wastes at the source, and (e) establishing procedures for handling and disposal of nonrecyclable material.

E.N.1.3.2 *Outdoor Storage.* Minimize exposure of recyclables to stormwater. Use good housekeeping measures to prevent accumulation of particulate matter and fluids, particularly in high traffic areas. Following are some control measure options (a) provide totally enclosed drop-off containers for the public; (b) install a sump and pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; (c) provide dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); (d) divert stormwater away from outside material storage areas; (e) provide covers over containment bins, dumpsters, and roll-off boxes; and (f) store the equivalent of one day’s volume of recyclable material indoors.

E.N.1.3.3 *Indoor Storage and Material Processing.* Minimize the release of pollutants from indoor storage and processing areas. Following are some control measure options (a) schedule routine good housekeeping measures for all storage and processing areas, (b) prohibit tipping floor washwater from draining to the storm sewer system, and (c) provide employee training on pollution prevention practices.

E.N.1.3.4 *Vehicle and Equipment Maintenance.* Following are some control measure options for areas where vehicle and equipment maintenance occur outdoors (a) prohibit vehicle and equipment washwater from discharging to the storm sewer system, (b) minimize or eliminate outdoor maintenance areas whenever possible, (c) establish spill prevention and clean-up procedures in fueling areas, (d) avoid topping off fuel tanks, (e) divert stormwater from fueling areas, (f) store lubricants and hydraulic fluids indoors, and (g) provide employee training on proper handling and storage of hydraulic fluids and lubricants.

E.N.2 Additional SWPCP Requirements

E.N.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of any of the following activities or sources that may be exposed to precipitation or stormwater: scrap and waste material storage, outdoor scrap and waste processing equipment; and containment areas for turnings exposed to cutting fluids.

E.N.2.2 *Maintenance Schedules/Procedures for Collection, Handling, and Disposal or Recycling of Residual Fluids at Scrap and Waste Recycling Facilities.* If you are subject to E.N.1.1.3, your SWPCP must identify any applicable maintenance schedule and the procedures to collect, handle, and dispose of or recycle residual fluids.

E.N.3 Sector-Specific Benchmarks

Table E.N-1 identifies benchmarks that apply to the specific subsectors of Sector N. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.N-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling (SIC code 5093)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Aluminum	1.10 mg/L
	Total Suspended Solids (TSS)	Statewide benchmark
	Total copper freshwater	Statewide benchmark
	Total copper saltwater	0.025 mg/L
	Total lead freshwater	Statewide benchmark
	Total lead saltwater	1.10 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector O – Steam Electric Generating Facilities.

E.O.1 Additional Technology-Based Effluent Limits.

E.Q.1.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to requirements in Schedule A.1 of the permit:

E.O.1.1.1 *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.

E.O.1.1.2. *Delivery Vehicles.* Minimize contamination of stormwater discharge from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.

E.O.1.1.3 *Fuel Oil Unloading Areas.* Minimize contamination of precipitation or stormwater from fuel oil unloading areas. Consider using containment curbs in unloading areas, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and using spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).

E.O.1.1.4 *Chemical Loading and Unloading.* Minimize contamination of precipitation or stormwater from chemical loading and unloading areas. Consider using containment curbs at chemical loading and unloading areas to contain spills, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and loading and unloading in covered areas and storing chemicals indoors.

E.O.1.1.5 *Miscellaneous Loading and Unloading Areas.* Minimize contamination of precipitation or stormwater from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.

E.O.1.1.6 *Liquid Storage Tanks.* Minimize contamination of stormwater from above-ground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent measures.

E.O.1.1.7 *Large Bulk Fuel Storage Tanks.* Minimize contamination of stormwater from large bulk fuel storage tanks. Consider containment berms (or their equivalent). You must also comply with applicable State and Federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.

E.O.1.1.8 *Spill Reduction Measures.* Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.

E.O.1.1.9 *Oil-Bearing Equipment in Switchyards.* Minimize contamination of stormwater from oil-bearing equipment in switchyard areas. Consider using level grades and

gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.

E.O.1.1.10 *Residue-Hauling Vehicles.* Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles without load covering or adequate gate sealing, or with leaking containers or beds.

E.O.1.1.11 *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before departure of each loaded vehicle.

E.O.1.1.12 *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of stormwater from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

E.O.1.1.13 *Landfills, Scrap yards, Surface Impoundments, Open Dumps, General Refuse Sites.* Minimize the potential for contamination stormwater from these areas.

E.O.2 Additional SWPCP Requirements

E.O.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of any of the following activities or sources that may be exposed to precipitation or stormwater: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).

E.O.3 Additional Inspection Requirements

E.O.3.1 *Inspection.* Inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

E.O.4 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.O-1 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.O-1[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from coal storage piles at Steam Electric Generating Facilities	TSS	50 mg/l[2]
	pH	6.0 min - 9.0 max

[1] Monitor semi-annually.

[2] If your facility is designed, constructed, and operated to treat the volume of coal pile discharge that is associated with a 10-year, 24-hour rainfall event, any untreated overflow of coal pile discharge from the treatment unit is not subject to the 50 mg/L limitation for total suspended solids.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector P – Land Transportation and Warehousing.

E.P.1 Additional Technology-Based Effluent Limits

E.P.1.1 *Good Housekeeping Measures.* In addition to the Good Housekeeping requirements in Schedule A.1 of the permit, you must do the following:

E.P.1.1.1 *Vehicle and Equipment Storage Areas.* Minimize the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance. Consider the following (or other equivalent measures): use of drip pans under vehicles/equipment, indoor storage of vehicles and equipment, installation of berms or dikes, use of absorbents, roofing or covering storage areas, and cleaning pavement surfaces to remove oil and grease.

E.P.1.1.2 *Fueling Areas.* Minimize contamination of stormwater discharge from fueling areas. Consider the following (or other equivalent measures): Covering the fueling area; using spill/overflow protection and cleanup equipment; minimizing stormwater run-on/runoff to the fueling area; using dry cleanup methods; and treating and/or recycling collected stormwater.

E.P.1.1.3 *Material Storage Areas.* Maintain all material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., "Used Oil," "Spent Solvents," etc.). Consider the following (or other equivalent measures): storing the materials indoors; installing berms/dikes around the areas; minimizing stormwater to the areas; using dry cleanup methods; and treating and/or recycling collected stormwater.

E.P.1.1.4 *Vehicle and Equipment Cleaning Areas.* Minimize contamination of stormwater discharge from all areas used for vehicle/equipment cleaning. Consider the following (or other equivalent measures): performing all cleaning operations indoors; covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the stormwater drainage system); treating and/or recycling collected washwater, or other equivalent measures.

E.P.1.1.5 *Vehicle and Equipment Maintenance Areas.* Minimize contamination of stormwater discharge from all areas used for vehicle/equipment maintenance. Consider the following (or other equivalent measures): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to stormwater drainage systems; using dry cleanup methods; treating and/or recycling collected stormwater, minimizing run on/runoff of stormwater to maintenance areas.

E.P.1.1.6 *Locomotive Sanding (Loading Sand for Traction) Areas.* Consider the following (or other equivalent measures): covering sanding areas; minimizing stormwater run on/runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by stormwater.

E.P.1.2 *Employee Training.* Address the following activities, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.

E.P.2 Additional SWPCP Requirements

E.P.2.1 *Drainage Area Site Map.* Identify in the SWPCP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/stormwater: Fueling stations; vehicle/equipment maintenance or cleaning areas; storage areas for vehicle/equipment with actual or potential fluid leaks; loading/unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; and storage areas.

E.P.2.2 *Potential Pollutant Sources.* Assess the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: Onsite waste storage or disposal; dirt/gravel parking areas for vehicles awaiting maintenance; illicit plumbing connections between shop floor drains and the stormwater conveyance system(s); and fueling areas. Describe these activities in the SWPCP.

E.P.2.3 *Description of Good Housekeeping Measures.* You must document in your SWPCP the good housekeeping measures you implement consistent with E.P.1.

E.P.2.4 *Vehicle and Equipment Wash Water Requirements.* If wash water is handled in a manner that does not involve separate NPDES permitting (e.g., hauled offsite), describe the disposal method and include all pertinent information (e.g., frequency, volume, destination, etc.) in your SWPCP. Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit for this sector.

E.P.3 Additional Inspection Requirements Inspect all the following areas/activities: storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Q – Water Transportation

E.Q.1 Additional Technology-Based Effluent Limits

E.Q.1.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to requirements in Schedule A.1 of the permit:

E.Q.1.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate NPDES permit. Collect or contain the discharges from the pressure washing area so that they are not commingled with stormwater discharges authorized by this permit.

E.Q.1.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharge into receiving waters or the storm sewer systems. Consider containing all blasting and painting activities or use other measures to minimize the discharge of contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

E.Q.1.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or stormwater from the storage areas. Specify which materials are stored indoors, and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

E.Q.1.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or stormwater from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater collected from the maintenance area.

E.Q.1.1.5 *Material Handling Area.* Minimize the contamination of precipitation or stormwater from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater to material handling areas.

E.Q.1.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, and fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding and making absorbent materials and oil containment booms readily available to clean up or contain any spills.

E.Q.1.2 *Employee Training.* At a minimum, address the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel

wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

E.Q.1.3 *Preventive Maintenance.* As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

E.Q.2 Additional SWPCP Requirements

E.Q.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: fueling; engine maintenance and repair; vessel maintenance and repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

E.Q.2.2 *Summary of Potential Pollutant Sources.* Document in the SWPCP the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting.)

E.Q.3 Additional Inspection Requirements

Inspect pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

E.Q.4 Sector-Specific Benchmarks

Table E.Q-1 identifies benchmarks that apply to the specific subsectors of Sector Q. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.Q-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Water Transportation Facilities (SIC 4412-4499)	Total Aluminum	1.10 mg/L
	Total lead freshwater	Statewide benchmark
	Total lead saltwater	1.10 mg/L
	Total zinc freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector R – Ship and Boat Building and Repair Yards

E.R.1 Additional Technology-Based Effluent Limits

E.R.1.1 *Good Housekeeping Measures.*

E.R.1.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharged water must be permitted as a process wastewater by a separate NPDES permit.

E.R.1.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharging into the receiving water or the storm sewer systems. Consider containing all blasting and painting activities, or use other measures to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

E.R.1.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or stormwater from the storage areas. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

E.R.1.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or stormwater from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater collected from the maintenance area.

E.R.1.1.5 *Material Handling Area.* Minimize the contamination of precipitation or stormwater from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater run-on to material handling areas.

E.R.1.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater. Clean accessible areas of the drydock prior to flooding and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to clean up and contain any spills.

E.R.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

E.R.1.3 *Preventive Maintenance.* As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

E.R.2 Additional SWPCP Requirements

E.R.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: fueling; engine maintenance or repair; vessel maintenance or repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; treatment, storage, and waste disposal areas; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

E.R.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).

E.R.2.3 *Documentation of Good Housekeeping Measures.* Document in your SWPCP any good housekeeping measures implemented to meet the effluent limits in E.R.1.1.

E.R.2.3.1 *Blasting and Painting Areas.* Document in the SWPCP any standard operating practices relating to blasting and painting (e.g., prohibiting uncontained blasting and painting over open water or prohibiting blasting and painting during windy conditions, which can render containment ineffective).

E.R.2.3.2 *Storage Areas.* Specify in your SWPCP which materials are stored indoors, and consider containment or enclosure for those stored outdoors.

E.R.3 Additional Inspection Requirements

Include the following in all monthly inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector S – Air Transportation

E.S.1 Limitation on Coverage

E.S.1.1 *Limitations on Coverage.* This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: the term "deicing" in this permit will generally be used to mean both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made otherwise.

E.S.2 Multiple Operators at Air Transportation Facilities

Air transportation facilities often have more than one operator who could discharge stormwater associated with industrial activity. Operators include the airport authority and airport tenants, including air passenger or cargo companies, fixed based operators, and other parties who routinely perform industrial activities on airport property.

The airport authority and tenants of the airport are encouraged to work in partnership in the development of the SWPCP. Tenants of the airport facility include air passenger or cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity. An airport tenant may obtain authorization under this permit and develop a SWPCP for discharges from his/her own areas of the airport.

E.S.3 Additional Technology-Based Effluent Limits

E.S.3.1 *Good Housekeeping Measures.*

E.S.3.1.1 *Aircraft, Ground Vehicle and Equipment Maintenance Areas*. Minimize the contamination of stormwater from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater from the maintenance area and providing treatment or recycling.

E.S.3.1.2 *Aircraft, Ground Vehicle and Equipment Cleaning Areas*. Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater from cleaning areas.

E.S.3.1.3 *Aircraft, Ground Vehicle and Equipment Storage Areas*. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and minimize the contamination of stormwater from these storage areas. Consider the following control measures, including any BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.

E.S.3.1.4 *Material Storage Areas*. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., "used oil," "Contaminated Jet A," etc.). Minimize contamination of stormwater from these areas. Consider the following control measures (or their equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.

E.S.3.1.5 *Airport Fuel System and Fueling Areas*. Minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following control measures (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater.

E.S.3.1.6 *Source Reduction*. Minimize, and where feasible eliminate, the use of urea and glycol-based deicing chemicals, in order to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

E.S.3.1.6.1 *Runway Deicing Operation*: To minimize the discharge of pollutants in stormwater from runway deicing operations, implement source reduction control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup; heating sand; and product substitution. Chemical options to replace pavement deicers (urea or glycol) include (list not exclusive): potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

E.S.3.1.6.2 *Aircraft Deicing Operations*. Minimize the discharge of pollutants in stormwater from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. Determine whether alternatives to glycol and whether containment measures for applied chemicals are feasible. Implement control measures for reducing deicing fluid such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems where feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations. The evaluations and determinations required by this Part should be carried out by the personnel most familiar with the

particular aircraft and flight operations and related systems in question (versus an outside entity such as the airport authority.

E.S.3.1.7 *Management of Stormwater*. Minimize the discharge of pollutants in stormwater from deicing chemicals. To minimize discharges of pollutants in stormwater from aircraft deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): installing a centralized deicing pad to recover deicing fluid following application; plug-and-pump (PnP); using vacuum/collection trucks (glycol recovery vehicles); storing contaminated stormwater/deicing fluids in tanks; recycling collected deicing fluid where feasible; releasing controlled amounts to a publicly owned treatment works; separation of contaminated snow; conveying contaminated stormwater into an impoundment for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing stormwater into vegetative swales or other infiltration measures. To minimize discharges of pollutants in stormwater from runway deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): mechanical systems (snow plows, brushes); conveying contaminated stormwater into swales and/or a stormwater impoundment; and pollution prevention practices such as ice detection systems, and airfield prewetting.

E.S.3.1.8 When applying deicing fluids during non-precipitation events (also referred to as "clear ice deicing"), implement control measures to prevent unauthorized discharge of pollutants (dry-weather discharges of pollutants would need coverage under an NPDES wastewater permit), or to minimize the discharge of pollutants from deicing fluids in later stormwater discharges, implement control measures such as the following, where determined to be feasible and that accommodate considerations safety, space, operational constraints, and flight considerations (list not exclusive): recovering deicing fluids; preventing the fluids from entering storm sewers or other stormwater discharge conveyances (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains); releasing controlled amounts to a publicly owned treatment works Used deicing fluid should be recycled whenever practicable.

E.S.3.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December- February, October - March, etc.) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season. If you meet the deicing chemical usage thresholds of 100,000 gallons glycol and/or 100 tons of urea, the deicing season you identified is the timeframe during which you must obtain the four required benchmark monitoring event results for deicing-related parameters, i.e., BOD, COD, ammonia and pH.

E.S.4 Additional SWPCP Requirements

E.S.4.1 *Drainage Area Site Map*. Document in the SWPCP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/stormwater: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment

maintenance/cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

E.S.4.2 *Potential Pollutant Sources.* In your inventory of exposed materials, describe in your SWPCP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If you use deicing chemicals, you must maintain a record of the types (including the Safety Data Sheets [SDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of your knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion with any comprehensive airport SWPCPs.

E.S.4.3 *Vehicle and Equipment Washwater Requirements.* Attach to or reference in your SWPCP, a copy of the NPDES permit issued for vehicle/equipment washwater, if applicable. If an industrial user permit is issued under a local pretreatment program, include a copy in your SWPCP. If washwater is handled in another manner (e.g., hauled offsite, retained onsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in your SWPCP.

E.S.4.4 *Documentation of Control Measures Used for Management of Stormwater:* Document in your SWPCP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

E.S.5 Sector-Specific Benchmarks

At a minimum conduct facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. DEQ may specifically require you to increase inspection frequencies.

E.S.6 Sector-Specific Benchmarks

Table E.S-1 identifies benchmarks that apply to the specific subsectors of Sector S. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, unless a facility has an Individual NPDES Permit for de-icing activities.

Table E.S-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
For airports where a single permittee, or a combination of permitted facilities, use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor these parameters at discharge points that collect stormwater from areas where deicing activities occur (SIC 4512-4581) and when deicing activities are occurring	Biochemical Oxygen Demand (BOD_5)	30 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Ammonia	2.14 mg/L
	pH	Statewide benchmark

E.S.7 Effluent Limitations Based on Effluent Limitations Guidelines and New Source Performance Standards

E.S.7.1 *Airfield Pavement Deicing.* For both existing and new "primary airports" (as defined at 40 CFR 449.2) with 1,000 or more annual non-propeller aircraft departures that discharge stormwater from airfield pavement deicing activities, there shall be no discharge of airfield pavement deicers containing urea. To comply with this limitation, such airports must do one of the following: (1) certify annually on the annual report that you do not use pavement deicers containing urea, or (2) meet the effluent limitation in Table E.S-2.

E.S.7.2 *Aircraft Deicing.* Airports that are both "primary airports" (as defined at 40 CFR 449.2) and new sources ("new airports") with 1,000 or more annual non-propeller aircraft departures must meet the applicable requirements for aircraft deicing at 40 CFR 449.11(a). Discharges of the collected aircraft deicing fluid directly to waters of the state are not eligible for coverage under this permit.

E.S.7.3 Monitoring, Reporting and Recordkeeping. For new and existing airports subject to the effluent limitations in E.S.7.1 or E.S.7.2 of this permit, you must comply with the applicable monitoring, reporting and recordkeeping requirements outlined in 40 CFR 449.20.

Table E.S-2[1]

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Effluent Limitation
Discharge containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Ammonia as Nitrogen	14.7 mg/L. daily maximum

[1]Monitor semi-annually.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector T – Treatment Works

E.T.1 Additional Technology-Based Effluent Limits

E.T.1.1 *Control Measures.* In addition to the other control measures, consider the following: routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

E.T.1.2 *Employee Training.* At a minimum, training must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

E.T.2 Additional SWPCP Requirements

E.T.2.1 *Site Map*. Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

E.T.2.2 *Potential Pollutant Sources*. Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads and rail lines.

E.T.2.3 *Wastewater and Washwater Requirements.* If wastewater and/or vehicle and equipment wash-water is not covered by another NPDES permit but is handled in another manner (e.g., hauled offsite, retained onsite), the disposal method must be described and all pertinent information (e.g., frequency, volume, destination) must be included in your SWPCP. Discharges of vehicle and equipment washwater, including tank cleaning operations, are not authorized by this permit for this sector.

E.T.3 Additional Inspection Requirements

Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

E.T.4 Sector-Specific Benchmarks

Table E.T.1

Subsector (You may be subject to requirements for more than one Sector / Subsector)	Parameter	Benchmark Monitoring Concentration
Treatment Works	E. coli	406 organisms/100 mL

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector U – Food and Kindred Products

E.U.1 Additional Technology-Based Limitations

E.U.1.1 *Employee Training*. Address pest control in your employee training program.

E.U.2 Additional SWPCP Requirements

E.U.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of the following activities if they are exposed to stormwater: vents and stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

E.U.2.2 *Potential Pollutant Sources.* Document in your SWPCP, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides) used on plant grounds.

E.U.3 Additional Inspection Requirements

Inspect on a monthly basis, at a minimum, the following areas where the potential for exposure to stormwater exists: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

E.U.4 Sector-Specific Benchmarks

Table E.U-1 identifies benchmarks that apply to the specific subsectors of Sector U. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.U-1

Subsector (You may be subject to requirements for more than one Sector / Subsector)	Parameter	Benchmark Monitoring Concentration
Grain Mill Products (SIC codes 2041-2048)	Total Suspended Solids (TSS)	Statewide benchmark
Fats and Oils Products (SIC 2074-2079)	Total Suspended Solids (TSS)	Statewide benchmark
	Biochemical Oxygen Demand (BOD_5)	30 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Nitrate plus Nitrite Nitrogen	10 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector V – Textile Mills, Apparel, and Other Fabric Products

E.V.1 Additional Technology-Based Limitations

E.V.1.1 *Good Housekeeping Measures.*

E.V.1.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, and dyes) in a protected area, away from drains. Minimize contamination of the stormwater from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums or containers, ensure that the drums and containers are clean (consider triple-rinsing) and that there is no contact of residuals with stormwater. Collect and dispose of washwater from these cleanings properly.

E.V.1.1.2 *Material Handling Areas.* Minimize contamination of stormwater from material handling operations and areas. Consider the following (or their equivalents): use of spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of material may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals, dyes, or wastewater.

E.V.1.1.3 *Fueling Areas.* Minimize contamination of stormwater from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing run-on of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater collected from the fueling area.

E.V.1.1.4 *Above-Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; including measures for tanks, piping and valves explicitly in your SPCC program; minimizing runoff of stormwater from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

E.V.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): use of reused and recycled waters, solvents management, proper disposal of dyes, proper disposal of petroleum products and spent lubricants, spill prevention and control, fueling procedures, and general good housekeeping practices.

E.V.2 Additional SWPCP Requirements

E.V.2.1 *Potential Pollutant Sources. Document in your SWPCP the following additional sources* and activities that have potential pollutants associated with them: industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).

E.V.2.2 *Description of Good Housekeeping Measures for Material Storage Areas.* Document in the SWPCP your containment area or enclosure for materials stored outdoors.

E.V.3 Additional Inspection Requirements

Inspect, at least monthly, the following activities and areas (at a minimum): transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, and all structural and nonstructural management practices.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector W – Furniture and Fixtures

E.W.1 Additional Technology-Based Limitations

E.W.1.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed of; access roads; and rail spurs.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector X – Printing and Publishing

E.X.1 Additional Technology-Based Effluent Limits

E.X.1.1 *Good Housekeeping Measures*.

E.X.1.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, hazardous waste, empty drums, portable and mobile containers of plant debris, wood crates, steel racks, and fuel oil) in a protected area, away from drains. Minimize contamination of the stormwater from such storage areas. Also, consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.

E.X.1.1.2 *Material Handling Area.* Minimize contamination of stormwater from material handling operations and areas (e.g., blanket wash, mixing solvents, loading and unloading materials). Consider the following (or their equivalents): using spill and overflow protection, covering fueling areas, and covering or enclosing areas where the transfer of materials may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals or wastewater.

E.X.1.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater collected from the fueling area.

E.X.1.1.4 *Above Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regularly cleaning these areas, explicitly addressing tanks, piping and valves in the SPCC program, minimizing stormwater runoff from adjacent areas, restricting access to the area, inserting filters in adjacent catch basins, providing absorbent booms in unbermed fueling areas, using dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

E.X.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): spent solvent management, spill prevention and control, used oil management, fueling procedures, and general good housekeeping practices.

E.X.2 Additional SWPCP Requirements

E.X.2.1 *Description of Good Housekeeping Measures for Material Storage Areas.* In connection with E.X.1.1.1, describe in the SWPCP the containment area or enclosure for materials stored outdoors.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

E.Y.1 Additional Technology-Based Effluent Limits

E.Y.1.1 *Controls for Rubber Manufacturers.* Minimize the discharge of zinc in your stormwater discharges. Following are some general control measure options to consider: using chemicals purchased in pre-weighed, sealed polyethylene bags; storing in-use materials in sealable containers, ensuring an airspace between the container and the cover to minimize "puffing" losses when the container is opened, and using automatic dispensing and weighing equipment.

E.Y.1.1.1 *Zinc Bags.* Ensure proper handling and storage of zinc bags at your facility. Following are some control measure options: employee training on the handling and storage of zinc bags, indoor storage of zinc bags, cleanup of zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

E.Y.1.1.2 *Dumpsters.* Minimize discharges of zinc from dumpsters through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering the dumpster; moving the dumpster indoors; and providing a lining for the dumpster.

E.Y.1.1.3 *Dust Collectors and Baghouses.* Minimize contributions of zinc to stormwater from dust collectors and baghouses. Replace or repair, as appropriate, improperly operating dust collectors and baghouses.

E.Y.1.1.4 *Grinding Operations.* Minimize contamination of stormwater as a result of dust generation from rubber grinding operations. Where determined to be feasible, install a dust collection system.

E.Y.1.1.5 *Zinc Stearate Coating Operations.* Minimize the potential for stormwater contamination from drips and spills of zinc stearate slurry that may be released to the storm drain. Where determined to be feasible, use alternative compounds to zinc stearate.

E.Y.1.2 *Controls for Plastic Products Manufacturers.* Minimize the discharge of plastic resin pellets in your stormwater discharges through implementation of control measures such as the following, where determined to be feasible (list not exclusive): minimizing spills; cleaning up of spills promptly and thoroughly; sweeping thoroughly; pellet capturing; employee education; and disposal precautions.

E.Y.2 Additional SWPCP Requirements

E.Y.2.1 *Potential Pollutant Sources for Rubber Manufacturers.* Document in your SWPCP the use of zinc at your facility and the possible pathways through which zinc may be discharged in stormwater.

E.Y.3 Sector-Specific Benchmarks

Table E.Y-1 identifies benchmarks that apply to the specific subsectors of Sector Y. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.Y-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Rubber Products Manufacturing (SIC codes 3011, 3021, 3052, 3053, 3061, 3069)	Total zinc Freshwater	Statewide benchmark
	Total zinc Saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Z – Leather Tanning and Finishing

E.Z.1 Additional Technology-Based Effluent Limits

E.Z.1.1 *Good Housekeeping Measures.*

E.Z.1.1.1 *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products.* Minimize contamination of stormwater from pallets and bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings). Store or protect indoors with polyethylene wrapping, tarpaulins, roofed storage, etc. where practicable. Place materials on an impermeable surface and enclose or put berms (or equivalent measures) around the area to prevent stormwater run-on and runoff where practicable.

E.Z.1.1.2 *Material Storage Areas.* Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials) minimize contact of such materials with stormwater.

E.Z.1.1.3 *Buffing and Shaving Areas.* Minimize contamination of stormwater discharge with leather dust from buffing and shaving areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): implementing dust collection enclosures; implementing preventive inspection and maintenance programs; or other appropriate preventive measures.

E.Z.1.1.4 *Receiving, Unloading, and Storage Areas.* Minimize contamination of stormwater discharge from receiving, unloading, and storage areas. If these areas are exposed, implement control measures such as the following, where determined to be feasible (list not exclusive): covering all hides and chemical supplies; diverting drainage to the process sewer; or grade berming or curbing the area to prevent stormwater discharge.

E.Z.1.1.5 *Outdoor Storage of Contaminated Equipment*. Minimize contact of stormwater with contaminated equipment through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering equipment, diverting drainage to the process sewer, and cleaning thoroughly prior to storage.

E.Z.1.1.6 *Waste Management.* Minimize contamination of stormwater discharge from waste storage areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering dumpsters; moving waste management activities indoors; covering waste piles with temporary covering material such as tarpaulins or polyethylene; and minimizing stormwater discharge by enclosing the area or building berms around the area.

E.Z.2 Additional SWPCP Requirements

E.Z.2.1 *Drainage Area Site Map.* Identify in your SWPCP where any of the following may be exposed to precipitation or stormwater: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations.

E.Z.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine-cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings, and shavings.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector AA – Fabricated Metal Products

E.AA.1 Additional Technology-Based Effluent Limits

E.AA.1.1 *Good Housekeeping Measures.*

E.AA.1.1.1 *Raw Steel Handling Storage.* Minimize the generation of and/or recover and properly manage scrap metals, fines, and iron dust. Include measures for containing materials within storage handling areas.

E.AA.1.1.2 *Paints and Painting Equipment.* Minimize exposure of paint and painting equipment to stormwater.

E.AA.1.2 *Spill Prevention and Response Procedures.* Ensure that the necessary equipment to implement a cleanup is available to personnel. The following areas should be addressed

E.AA.1.2.1 *Metal Fabricating Areas.* Maintain clean, dry, orderly conditions in these areas. Consider using dry clean-up techniques.

E.AA.1.2.2 *Storage Areas for Raw Metal.* Keep these areas free of conditions that could cause, or impede appropriate and timely response to, spills or leakage of materials through implementation of control measures such as the following, where determined to be feasible (list not exclusive): maintaining storage areas so that there is easy access in the event of a spill, and labeling stored materials to aid in identifying spill contents.

E.AA.2.2.3 *Metal Working Fluid Storage Areas.* Minimize the potential for stormwater contamination from storage areas for metal working fluids.

E.AA.1.2.4 *Cleaners and Rinse Water.* Control and clean up spills of solvents and other liquid cleaners, control sand buildup and disbursement from sand-blasting operations, and prevent exposure of recyclable wastes. Substitute environmentally benign cleaners when possible.

E.AA.1.2.5 *Lubricating Oil and Hydraulic Fluid Operations.* Minimize the potential for stormwater contamination from lubricating oil and hydraulic fluid operations. Use monitoring equipment or other devices to detect and control leaks and overflows where feasible. Install perimeter controls such as dikes, curbs, grass filter strips, or equivalent measures where feasible.

E.AA.1.2.6 *Chemical Storage Areas.* Minimize stormwater contamination and accidental spillage in chemical storage areas. Include a program to inspect containers and identify proper disposal methods.

E.AA.1.3 *Spills and Leaks.* In your spill prevention and response procedures, pay attention to the following materials (at a minimum): chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals, and hazardous chemicals and wastes.

E.AA.2 Additional SWPCP Requirements

E.AA.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or stormwater: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary and permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps and barriers; processing areas, including outside painting areas; wood preparation; recycling; and raw material storage.

E.AA.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals, and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cobs, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, and brazing; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingot pieces, and refuse and waste piles.

E.AA.3 Additional Inspection Requirements

E.AA.3.1 *Inspections.* At a minimum, include the following areas in all inspections: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, and vehicle fueling and maintenance areas. Also, inspect areas associated with the storage of raw metals, spent solvents and chemicals storage areas, outdoor paint areas, and drainage from roof. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and related materials.

E.AA.4 Sector-Specific Benchmarks

Table E.AA-1 identifies benchmarks that apply to the specific subsectors of Sector AA. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.AA-1

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Fabricated Metal Products, except Coating (SIC 3411-3499; 3911-3915)	Total Aluminum	1.10 mg/L
	Nitrate plus Nitrite Nitrogen	10 mg/L
	Total zinc Freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L
Fabricated Metal coating and Engraving (SIC 3479)	Nitrate plus Nitrite Nitrogen	10 mg/L
	Total zinc Freshwater	Statewide benchmark
	Total zinc saltwater	0.46 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector AB – Transportation Equipment, Industrial or Commercial Machinery

E.AB.1 Additional SWPCP Requirements

E.AB.1.1 *Drainage Area Site Map.* Identify in your SWPCP where any of the following may be exposed to precipitation or stormwater: vents and stacks from metal processing and similar operations.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

A1. Duty to Comply with Permit

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for DEQ to terminate, modify and reissue, revoke, or deny renewal of a permit.

A2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions of 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and Environmental Quality Commission (EQC) rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows DEQ to impose civil penalties up to $25,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution in the second degree, is a Class A misdemeanor and is punishable by a fine of up to $25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, unlawful water pollution in the first degree is a Class B felony and is punishable by a fine of up to $250,000, imprisonment for not more than 10 years, or both.

The Clean Water Act provides that any person who violates permit condition, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation.

The Clean Water Act provides that any person who *negligently* violates any condition, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both.

In the case of a second or subsequent conviction for a *negligent* violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both.

In the case of a second or subsequent conviction for a *knowing* violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

Any person who *knowingly* violates section any permit condition, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both.

In the case of a second or subsequent conviction for a *knowing* endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

Any person may be assessed an administrative penalty by the Administrator for violating any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act.

Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000.

Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

A3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

DEQ may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

A5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).

e. New information or regulations.
f. Modification of compliance schedules.
g. Requirements of permit reopener conditions
h. Correction of technical mistakes made in determining permit conditions.
i. Determination that the permitted activity endangers human health or the environment.
j. Other causes as specified in 40 CFR §§ 122.62, 122.64, and 124.5.
k. For communities with combined sewer overflows (CSOs):
   (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.
   (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
   (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

A6. Toxic Pollutants
The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rule (OAR) 340-041-0033 and section 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

A7. Property Rights and Other Legal Requirements
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

A8. Permit References
Except for effluent standards or prohibitions established under section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

A9. Permit Fees
The permittee must pay the fees required by OAR.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

B1. Proper Operation and Maintenance
The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve

compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B2. Need to Halt or Reduce Activity Not a Defense

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B3. Bypass of Treatment Facilities

a. Definitions
   (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.
   (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.
   (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:
      i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
      iii. The permittee submitted notices and requests as required under General Condition B3.c.
   (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).

c. Notice and request for bypass.
   (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.
   (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

B4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in General Condition D5, hereof (24-hour notice); and
   (4) The permittee complied with any remedial measures required under General Condition A3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

B5. Treatment of Single Operational Upset

For purposes of this permit, a single operational upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one federal Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include federal Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definition. "Overflow" means any spill, release or diversion of sewage including:
   (1) An overflow that results in a discharge to waters of the state; and
   (2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the state.

b. Reporting required. All overflows must be reported orally to DEQ within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D5.

B7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (for example, public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B8.

Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

B8. Emergency Response and Public Notification Plan

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses, or upsets that may endanger public health. At a minimum the plan must include mechanisms to:

a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
e. Provide emergency operations; and
f. Ensure that DEQ is notified of the public notification steps taken.

B9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

C1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

C2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503 unless other test procedures have been specified in this permit.

For monitoring of recycled water with no discharge to waters of the state, monitoring must be conducted according to test procedures approved under 40 CFR part 136 or as specified in the most

recent edition of Standard Methods for the Examination of Water and Wastewater unless other test procedures have been specified in this permit or approved in writing by DEQ.

C4. Penalties for Tampering

The federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by DEQ. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

C6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (for example, total residual chlorine), only the average daily value must be recorded unless otherwise specified in this permit.

C7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

a. The date, exact place, time, and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

C10. Inspection and Entry

The permittee must allow DEQ or EPA upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

C11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR § 122.21 are not classified as confidential [40 CFR § 122.7(b)].

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

The permittee must comply with OAR 340-052, "Review of Plans and Specifications" and 40 CFR § 122.41(l)(1). Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by DEQ. The permittee must give notice to DEQ as soon as possible of any planned physical alternations or additions to the permitted facility.

D2. Anticipated Noncompliance

The permittee must give advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

D3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR § 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

D4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.
   (1) Oral Reporting within 24 hours.
      i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.
         (a) The location of the overflow;
         (b) The receiving water (if there is one);
         (c) An estimate of the volume of the overflow;
         (d) A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
         (e) The estimated date and time when the overflow began and stopped or will be stopped.
      ii. The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:
         (a) The OERS incident number (if applicable); and
         (b) A brief description of the event.
   (2) Written reporting postmarked within 5 days.
      i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:
         (a) The OERS incident number (if applicable);
         (b) The cause or suspected cause of the overflow;
         (c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
         (d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
         (e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

      DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

b. Other instances of noncompliance.
   (1) The following instances of noncompliance must be reported:
      i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
      ii. Any upset that exceeds any effluent limitation in this permit;
      iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
      iv. Any noncompliance that may endanger human health or the environment.
   (2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

(3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
   i. A description of the noncompliance and its cause;

   ii. The period of noncompliance, including exact dates and times;
   iii. The estimated time noncompliance is expected to continue if it has not been corrected;
   iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
   v. Public notification steps taken, pursuant to General Condition B**7.**

(4) DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

D6. Other Noncompliance
The permittee must report all instances of noncompliance not reported under General Condition D4 or D5 at the time monitoring reports are submitted. The reports must contain:
a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D7. Duty to Provide Information
The permittee must furnish to DEQ within a reasonable time any information that DEQ may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to DEQ, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to DEQ, it must promptly submit such facts or information.

D8. Signatory Requirements
All applications, reports or information submitted to DEQ must be signed and certified in accordance with 40 CFR § 122.22.

D9. Falsification of Information
Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $125,000 per violation and up to 5 years in prison per ORS chapter 161. Additionally, according to 40 CFR § 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance will, upon conviction, be punished by a federal civil penalty not to exceed $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

D10. Changes to Indirect Dischargers

The permittee must provide adequate notice to DEQ of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the federal Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

SECTION E. DEFINITIONS

E1. *BOD* or BOD_5 means five-day biochemical oxygen demand.
E2. *CBOD* or $CBOD_5$ means five-day carbonaceous biochemical oxygen demand.
E3. *TSS* means total suspended solids.
E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.
E5. *FC* means fecal coliform bacteria.
E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
E8. *mg/l* means milligrams per liter.
E9. *µg/l* means microgram per liter.
E10. *kg* means kilograms.
E11. m^3/d means cubic meters per day.
E12. *MGD* means million gallons per day.
E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
E18. *Quarter* means January through March, April through June, July through September, or October through December.
E19. *Month* means calendar month.

E20. *Week* means a calendar week of Sunday through Saturday.
E21. *POTW* means a publicly-owned treatment works.

APPENDIX A: BASIN-SPECIFIC pH CONCENTRATIONS

pH Basin-Specific Criteria (OAR 340-041-0101 through 340-041-0350) Impairment Monitoring Concentrations and Water Quality-based Effluent Limit

Basin or Water Body	OAR	Water	Criteria Range
General	**340-041-0021(1)(a)**	Marine	7.0 to 8.5
General	**340-041-0021(1)(b)**	Estuarine and fresh waters	See basin-specific criteria
Columbia River	**340-041-0104(1)**	Main stem Columbia River (mouth to river mile 309):	7.0 to 8.5
Snake River	**340-041-0124(1)**	Main stem Snake River (river miles 260 to 335)	7.0 to 9.0
Deschutes Basin	**340-041-0135(1)(a)**	All other basin streams (except Cascade lakes)	6.5 to 8.5
	340-041-0135(1)(b)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5
Goose and Summer Lakes Basin	**340-041-0145(1)(a)**	Goose Lake	7.5 to 9.5
	340-041-0145(1)(b)	All other basin waters	7.0 to 9.0
Grande Ronde Basin	**340-041-0156(1)**	All basin streams (other than main stem Snake River)	6.5 to 9.0
Hood Basin	**340-041-0165(1)(a)**	Hood River Basin streams (except main stem Columbia River and Cascade lakes)	6.5 to 8.5
	340-041-0165(1)(b)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5
John Day Basin	**340-041-0175(1)**	All basin streams (other than the main stem Colombia River)	6.5 to 9.0
Klamath Basin	**340-041-0185(1)(a)**	Fresh waters except Cascade lakes	6.5 to 9.0
	340-041-0185(1)(b)	Cascade lakes above 5,000 feet altitude	6.0 to 8.5
Malheur Lake Basin	**340-041-0195(1)**	All	7.0 to 9.0
Malheur River Basin	**340-041-0207(1)**	All	7.0 to 9.0
Mid Coast Basin	**340-041-0225(1)(a)**	Marine waters	7.0 to 8.5

Basin or Water Body	OAR	Water	Criteria Range
	340-041-0225(1)(b)	Estuarine and fresh waters	6.5 to 8.5
North Coast Basin	**340-041-0235(1)(a)**	Marine waters	7.0 to 8.5
	340-041-0235(1)(b)	Estuarine and fresh waters	6.5 to 8.5
Owyhee Basin	**340-041-0256(1)**	All	7.0 to 9.0
Powder/Burnt Basins	**340-041-0265(1)**	All basin streams (other than main stem Snake River)	6.5 to 9.0
Rogue Basin	**340-041-0275(1)(a)**	Marine waters	7.0 to 8.5
	340-041-0275(1)(b)	Estuarine and fresh waters (except Cascade lakes)	6.5 to 8.5
	340-041-0275(1)(c)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5
Sandy Basin	**340-041-0290(1)(a)**	All basin waters (except main stem Columbia River and Cascade lakes)	6.5 to 8.5
	340-041-0290(1)(b)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5
South Coast Basin	**340-041-0305(1)(a)**	Estuarine and fresh waters	6.5 to 8.5
	340-041-0305(1)(b)	Marine waters	7.0 to 8.5
Umatilla Basin	**340-041-0315(1)**	All basin streams (other than main stem Columbia River)	6.5 to 9.0
Umpqua Basin	**340-041-0326(1)(a)**	Marine waters	7.0 to 8.5
	340-041-0326(1)(b)	Estuarine and fresh waters (except Cascade lakes)	6.5 to 8.5
	340-041-0326(1)(c)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5
Walla Walla Basin	**340-041-0336**	All	6.5 to 9.0
Willamette Basin	**340-041-0345(1)(a)**	All basin waters (except main stem Columbia River and Cascade lakes)	6.5 to 8.5
	340-041-0345(1)(b)	Cascade lakes above 3,000 feet altitude	6.0 to 8.5

FIGURE B-2 - NPDES PERMIT LETTER May 6, 2021

Click to view/print NPDES Permit Letter May 6, 2021

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ▪ Mingus Mapps, Commissioner ▪ Michael Jordan, Director

May 6, 2021

Todd Habets
SHORE TERMINALS LLC
9280 W STOCKTON BLVD STE 220
ELK GROVE, CA 95758-8077

RE: 2021-2026 NPDES Permit Number 1200-Z, Monitoring Requirements
Facility: NUSTAR/PORTLAND TERMINAL - 9420 NW ST HELENS RD PORTLAND
File Number: 109938

Dear Permit Registrant:

DEQ has reissued the 1200-Z Permit, effective July 1, 2021. Below are your revised monitoring requirements under the reissued permit, starting July 1, 2021. All monitoring waivers expire on July 1, 2021. Please review the information closely as pollutants and associated benchmarks/concentrations may have changed. If you identify any discrepancies in the table, please contact your permit manager as soon as possible.

Monitoring Requirements
You must monitor for the pollutants in the table below. If you discharge to a Category 5: 303(d) listed receiving water for pH, total copper, total lead, total zinc and/or E. coli, the table below will not include statewide or sector-specific benchmarks for those pollutants. Exceedance of impairment monitoring may escalate to a water quality-based effluent limit during this permit cycle. Please read Schedule A.13 and Schedule C carefully.

Georegion	Pollutant	Statewide Benchmark	Unit	Frequency
Portland Harbor	pH	5.5-9.0	s.u.	Four times per year
Portland Harbor	Total Copper	0.015	mg/L	Four times per year
Portland Harbor	Total Lead	0.24	mg/L	Four times per year
Portland Harbor	Total Zinc	0.24	mg/L	Four times per year
Portland Harbor	TSS	30	mg/L	Four times per year
Receiving Water AU_ID: 104175	**Pollutant**	**Impairment Concentration**	**Units**	**Frequency**
Willamette River (Johnson Creek to Columbia River)	Total Iron	10	mg/L	Four times per year

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).
To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

DEQ has scheduled an informational webinar on May 18th at 9 am to inform you of the changes in the reissued permit. The webinar will be recorded and will provide time to ask questions.

1200-Z Industrial Stormwater Permit Renewal 2021 Informational Webinar:
https://us02web.zoom.us/j/89933898179?pwd=VE43cWx6b0p3SnlqL1M1SE9nVGsyQT09
Passcode: 444150
or Telephone:
Dial: 877-853-5257
Webinar ID: 899-3389-8179

It is your responsibility to comply with the new permit conditions and monitoring requirements starting July 1, 2021. DEQ will be transitioning to electronic data management system during this permit cycle. As such, you will not receive the first page of the permit identifying your facility as registered under the renewed permit. However, DEQ mailed a letter, dated March 31, 2021 to your facility regarding coverage under the new permit. Please visit DEQ's industrial stormwater permits webpage to find a copy of the permit and associated documents.
https://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater-Industrial.aspx

The City of Portland Bureau of Environmental Services has an Intergovernmental Agreement with the DEQ to administer permits for those facilities located within the City. If you have any questions regarding this letter, please contact your City of Portland stormwater permit manager:

Matt Poole
6543 N. Burlington Ave
Portland, OR 97203
503-865-6559
Matthew.Poole@PortlandOregon.gov

Sincerely,

Stacy Hibbard
Environmental Manager

Enc. Schedule A.13 and Schedule C permit language

CATEGORY 5: 303(d) LIST IMPAIRMENT EXCEEDANCE RESPONSE

13. Water Quality-based Effluent Limits

a. The permit registrant must comply with water quality-based effluent limits for discharges to impaired receiving waters based on the EPA-approved Category 5: 303(d) list in effect at the time of permit assignment for pH, copper, lead, zinc, iron and E. coli that correspond to the specific pollutant(s) for which the water body is impaired when monitoring results trigger the events specified below.

b. The permit registrant must use all qualifying samples except sample results from properly maintained mass reduction measures installed at or above DEQ-approved designed storm capacity.

c. For E. coli and iron, if the triggering events occur, the permit registrant must comply with narrative water quality-based effluent limits.

d. For pH, copper, lead and zinc, if the triggering events occur, the permit registrant must comply with numeric water quality-based effluent limits at the pollutant concentrations in Table 5 as required by Schedule B.3.

e. Triggering events for pH, copper, lead and zinc:

   i. If two consecutive qualifying sample results collected at any monitoring point falls outside the basin-specific range for pH in Appendix A as required by Schedule B.3 at each monitoring point subject to impairment monitoring for which the water body is impaired for pH.

   ii. If two consecutive qualifying sample results collected at any monitoring point exceed the impairment concentrations for copper, lead, or zinc in Table 5, as required by Schedule B.3 subject to impairment monitoring.

   iii. If a qualifying sample result collected at any monitoring point is greater than two times the impairment concentrations in Table 5, as required by Schedule B.3 for copper, lead, or zinc subject to impairment monitoring.

f. When the impairment monitoring as required by Schedule B.3 escalates to a numeric water quality-based effluent limit based on triggering events above in Schedule A.13.e, the permit registrants must notify DEQ or agent no later than 30 calendar days from receiving the monitoring results. At such time, permit registrant may request up to a two-year compliance schedule in accordance with Schedule C.

g. The permit registrants must sample all discharge points subject to numeric water quality-based effluent limit, including those previously designated as substantially similar.

h. Permit registrants that discharge into Category 5: 303(d) listed receiving waters for fecal coliform or enterococcus must monitor stormwater discharge that correspond to the specific pollutant and report as specified in Table 6 and Table 7 applicable to impairment pollutants. DEQ may require

additional narrative water quality-based effluent limits if a public health risk is identified from the discharge.

i. Triggering event for E. coli:
   i. If two consecutive qualifying sample results collected at any monitoring point exceeds the impairment concentration for E. coli in Table 5A, as required in Schedule B.4 subject to impairment monitoring, the permit registrant must implement the following narrative water quality-based effluent limits:
      (1) Prevent rodents, birds, and other animals from feeding/nesting/roosting at the facility to the degree practicable. Nothing in this section shall be construed as allowing violations of any applicable federal, state or local statutes, ordinances, or regulations including the Migratory Bird Treaty Act;
      (2) Clean storm sewer lines, including catch basins, annually. Frequency of cleaning may be reduced, or decreased to catch basins, only after the first annual cleaning if the source of the E. coli exceedances are identified and the storm sewer lines are determined to not be a contributing factor. Flushed water and solids must be disposed of properly and not allowed to discharge;
      (3) If the source of the exceedances is not readily identified, perform a one-time dry weather inspection to identify and eliminate any sanitary sewer cross-connections or leaky sewer pipes;
      (4) Investigate and document any human dwelling encampments;
      (5) Install additional source or operational controls to address known sources of fecal contamination such as green waste, illegal dumping, dumpsters or garbage trucks and grease bins, and portable toilets as applicable; and if applicable,
      (6) Conduct and report biochemical speciation identification results to indicate non-fecal discharges.

j. Triggering event for iron:
   i. If two consecutive qualifying sample results collected at any monitoring point exceeds impairment concentration for iron in Table 5A, as required by Schedule B.4 subject to impairment monitoring, the permit registrant must implement the following narrative water quality-based effluent limits:
      (1) Demonstrate compliance with the erosion and sediment control narrative technology-based effluent limit in Schedule A.1.d. and stabilize all exposed soils that have potential to discharge;
      (2) Implement sweeping or other equivalent methods of cleaning sufficient to minimize the discharge of sediment and debris, but in no case less than once per calendar quarter when industrial activity has occurred at the site;
      (3) Clean storm sewer lines, including catch basins, annually. Frequency of cleaning may be reduced or decreased to catch basins only after the first annual cleaning if the source of the iron exceedances are identified and the storm sewer lines are determined to not be a contributing factor. Flushed water and solids must be disposed of properly and not allowed to discharge; and
      (4) Install additional source and operational controls to the extent practicable to address known sources of iron pollution such as permanent structures by removing, replacing or sealing corroding metal.

k. The permit registrant must complete the narrative water quality-based effluent limits no later than 90 calendar days from receiving monitoring results of the triggering event above in Schedule A.13.h and i and continue as required. SWPCP revisions documenting completion are required as specified in Schedule A.9.

l. If the permit registrant is unable to comply with the numeric or narrative water quality-based effluent limits, it is a permit violation and permit coverage may be revoked under this general permit and coverage required under an individual permit.

SCHEDULE C

COMPLIANCE SCHEDULES

1. **Numeric Water Quality-based Effluent Limits:** If the permit registrant is subject to numeric water quality-based effluent limits as required by triggering events in Schedule A.13.e, unable to immediately comply with applicable effluent limits, and has requested a compliance schedule as specified in Schedule C.2., the permit registrant must comply with the following compliance schedule milestones in Table 9. The permit registrant is allowed a compliance schedule when site modifications to implement a combination of source control and treatment are necessary to achieve numeric water quality-based effluent limit. Final numeric water quality-based effluent limits become enforceable when consistent compliance is achieved, or a maximum of 24 months following the trigger event specified in Schedule A.13.e, whichever occurs first.
   a. Failure to comply with the final compliance schedule within 24 months following the qualifying event specified in Schedule A.13.e is a permit violation.
   b. Consistent compliance with the effluent limits for this section shall be demonstrated by achieving compliance with the applicable effluent limit(s) for one full reporting year, unless the permit registrant provides, and DEQ or agent accepts, a rationale for why the monitoring data is not representative of anticipated future performance.

2. **Compliance Schedule Milestones:** A permit registrant will be allowed a compliance schedule if monitoring results indicate that stormwater discharges do not meet numeric water quality-based effluent limit concentrations in Table 5 that correspond to the specific pollutant(s) for which the water body is impaired. The permit registrant must request a compliance schedule from DEQ or agent and shall carry out the actions by the specified due dates below.

Table 9: Compliance Schedules

Action	Due Date[1]
1. Identify the source of contamination in stormwater discharge and determine if source control, treatment, or both will be used to achieve compliance with the applicable numeric effluent limit(s).	Within 6 months
2. Submit plans for structural modification of existing facilities or the construction of new facilities consistent with the determination in Action 1.	Within 12 months
3. Commence modifications/installations as specified in Action 2.	Within 18 months
4. Comply with final effluent limits and submittal of a revised SWPCP	Within 24 months

[1] In relation to the date of the triggering events specified in Schedule A.13.e occurred

3. **Status Reports:** Permit registrant shall submit status reports to DEQ or agent within 14-days after each action due date listed in Table 9. Status reports shall include the following information:
   a. A status summary of the progress towards completing the actions specified in Table 9, including any relevant documentation or findings necessary to demonstrate compliance with the applicable due dates.
   b. Confirmation of completion of the required action or a communication with DEQ or agent that the permit registrant will be delayed in implementing the required action. Notifications of a delay must include reasons for the delay and a revised schedule for ensuring compliance with the final

due date to comply with the numeric water quality-based effluent limits within 24 months. DEQ or agent will notify the permit registrant no later than 30 calendar days from receipt if the delay is approved or denied. An extension of the final compliance date is prohibited.

APPENDIX A
INSPECTION LOGS

Last Revised: August 31, 2021

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A.1 Inspection Logs

Figure A-1 - Terminal Inspections

Figure A-2 - Portland Discharge, Sample Daily Inspection Log Sheet

Figure A-3 - Preventative Maintenance Inspection

Figure A-4 - Inspection Report

Figure A-5 - StormFilter® Maintenance Report

Figure A-6 - Monthly Catch Basin Inspection

Figure A-7 - AVO Leak Inspection Form

Figure A-8 - Discharge Monitoring Report Form

A.1 INSPECTION LOGS

FIGURE A-1 - TERMINAL INSPECTIONS

Click to view/print Terminal Inspections, 2015 08 10

SHORE TERMINALS LLC, PORTLAND TERMINAL
TERMINAL INSPECTIONS

Inspections:

Daily Inspections:

AVO Inspections (All terminals twice daily)
Hazardous Waste Inspections

Monthly Inspections:

Cathodic Protection (Impressed Current)
Fire Extinguishers
Above Ground Tanks (Monthly External Inspection)
SPCC/Tank Inspections
Tank High Level Alarms Test
Oil/Water Separator
Stormwater Outfalls Catch
Basins

Quarterly Inspections:

Security Seal Integrity
Hose Visual Inspection
Additive System Shut Down and Calibration
Vapor Holder
Inspection of Pressure / Vacuum Vents and Flame Arrestors
Thermometers

Annual Inspections:

Comprehensive Terminal Inspection
Cathodic Protection (Impressed Current) and Sacrificial Anodes
Non-Product Pressure Vessels
Floating Roof Seal Inspections
Retentions of Forms
Hose Test
Fire Hydrants
Fire Extinguishers
Tank High-Level Alarm Transmitters
Vapor Recovery Gauges / Thermometers
Security Seal Inspection
Delivery Equipment Inspection
Fire Foam System Inspection
Flame Arrestors
Oil Transfer Pipe System-Hydro test
Drum Testing

Other Inspections:

Tank Alarm System Inspection (minimum of Bi-annual)
Vapor Control System
Effluent Control (minimum every 3 years)
Loading Rack Static Eliminator Check (every other quarter)
Product Piping Integrity (perform when surfaces are visible)
Underground piping
Drain Piping
Internal Inspection of Aboveground Tanks for Product Quality
Meter Prover Calibration
Strainers
Relief Valves
Portable Fire Extinguishers

FIGURE A-2 - PORTLAND DISCHARGE, SAMPLE DAILY INSPECTION LOG SHEET

Click to view/print Portland Discharge, Sample Daily Inspection Log Sheet

FIGURE A-3 - PREVENTATIVE MAINTENANCE INSPECTION

Click to view/print Preventative Maintenance Inspection

FIGURE A-4 - INSPECTION REPORT

Click to view/print Inspection Report

Inspection Report

FIGURE A-5 - STORMFILTER® MAINTENANCE REPORT

Click to view/print StormFilter® Maintenance Report

FIGURE A-6 - MONTHLY CATCH BASIN INSPECTION

Click to view/print Monthly Catch Basin Inspection

FIGURE A-7 - AVO LEAK INSPECTION FORM

Click to view/print AVO Leak Inspection Form

FIGURE A-8 - DISCHARGE MONITORING REPORT FORM

Click to view/print Discharge Monitoring Report Form

APPENDIX B
FACILITY PERMITS AND CERTIFICATIONS

Last Revised: August 31, 2021

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B.1 Facility Permits and Certifications

Figure B-1 - 1200-Z General Permit Reissuance 10/22/2018

Figure B-2 - NPDES Permit Issuance Letter

B.1 FACILITY PERMITS AND CERTIFICATIONS

FIGURE B-1 - 1200-Z GENERAL PERMIT (2021-2026)

Click to view/print 1200-Z General Permit

FIGURE B-2 - NPDES PERMIT LETTER May 6, 2021

Click to view/print NPDES Permit Letter May 6, 2021

APPENDIX C
RECORD OF CHANGES

Last Revised: August 31, 2021

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C.1 Record of Changes

Figure C-1 - Record of Changes Form

Figure C-1 Record of Changes		
Date	**Changes Made By**	**Description**
7/25/2022	Ian Maguire/ Buddy Stubblefield/ Kyle Bell	Updated SWPCP in response to Warning Letter from City of Portland dated June 13, 2022. Updated Northern Facility and Southern facility drainage maps to show drainage system valves and sumps, dock curbing, update spill kit locations and location of content lists. Update intro section to include Section 1.2.3 - Known Areas of Significant Materials and History of Releases. Updated contact information and text to include specific language for BMPs and maintenance. City of Portland letter attached.

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory

6543 N Burlington Ave, Bldg 217, Portland, Oregon 97203 ▪ Mingus Mapps, Commissioner ▪ Dawn Uchiyama, Interim Director

June 13, 2022

Ryan Groesbeck
NuStar Energy LLC
9420 NW St Helens Rd
Portland, OR 97231
Ryan.Groesbeck@nustarenergy.com

Re: **Warning,** *Schedule B.12*
Stormwater Inspection - NuStar Energy LLC, 9420 NW St Helens Rd, DEQ File #109938

Dear Ryan Groesbeck:

The City of Portland (City) conducted an inspection of NuStar (facility) on June 7, 2022 to assess compliance with the 1200-Z National Pollutant Discharge Elimination System Industrial Stormwater General Permit (permit) and the requirements of the City Code 17.38 for the maintenance and operation of private stormwater facilities.

The following pertains to the 1200-Z Permit:

The City is issuing the following enforcement actions; if you have additional information to substantiate that the enforcement was issued in error, please submit the information to the City immediately. If the City determines that the enforcement was issued in error, the City will amend or rescind the enforcement action as applicable:

WARNING:

Failure to Meet Inspection Requirements, *Schedule B.12*: The facility failed to properly conduct inspections in accordance with permit requirements.

- Visual observations at 002 were not performed during a rain event during October 2021. The facility uses two forms to document the condition of stormwater discharge. A daily log titled *NuStar Daily Storm Water Inspection Form* and a *Monthly Stormwater Visual Monitoring Form*. According to local rain gauges, there was no rainfall in the area on October 15, 2021, when the monthly form was complete, or during any of the times documented on the daily log. The facility must conduct visual observations during a discharge event if one occurs during the month, regardless of whether the monthly site inspection has already occurred. If no discharge occurs during a month, the facility must wait until the end of the month to make a positive determination that no discharge occurred.
- Visual observations that were conducted did not included the following permit requirements: suspended solids, other obvious indicators of pollution, and the nature of the discharge. The facility can likely eliminate the use of the monthly form, as the information reflected on the monthly form is redundant of that on the daily log. However, whether one or both forms are used moving forward, the above items must be included and documented during visual observations.

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).
To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

The monthly form in use at the facility states that it is to be "completed monthly, during a discharge event." This is consistent with permit requirements; however, this is not occurring in practice. Visual observations performed and documented on the monthly form were not performed during a discharge event from April 2021 through September 2021. The daily log demonstrated that the facility performed visual observations at other times during these months and therefore remained in compliance with this permit requirement. Moving forward, the facility must ensure:

- Staff is appropriately trained on proper documentation and inspection requirements,
- If the facility continues to use the *Monthly Stormwater Visual Monitoring Form*, ensure inspections are conducted during a discharge event and that staff waits until the end of the month to report no discharge,
- If the facility decides to use only the *NuStar Daily Storm Water Inspection Form*, ensure that at least once a month, the inspection occurs during a discharge event.

The following items are <u>required</u> to ensure compliance with the permit:

Stormwater Pollution Control Plan (SWPCP), *Schedule A.10:* The SWPCP for this facility was submitted on August 31, 2021 and was reviewed by the City for compliance with the permit. Please submit an updated SWPCP with the following revisions **<u>within 30 days</u>**.

- *Schedule A.10.b.i:* Revisions to the map are necessary. Please make the following changes:
  - ☐ The indicator for drainage boundaries is in the legend but is not used on the map,
  - ☐ Add the locations of all stormwater pumps/lift stations and shutoff valves,
  - ☐ Include spill kit contents,
  - ☐ Add curbing used to divert or contain stormwater, including on the overwater structure.
- *Schedule A.7.b.iii*: The SWPCP does not address the location and description of areas of known or discovered significant materials from previous operations. Include a discussion of the history and pollutants associated with the Oregon Department of Environmental Quality Environmental Cleanup Site Information (ECSI) numbers 1989 and 5130.
- *Schedule A.10.b.vi*: The following control measures need updating:
  - ☐ During the inspection, the City observed catch basin filters in use throughout the facility, but the SWPCP only mentions catch basin filters in Figure 6.1-1, which pertains to facility inspections around the Bread Plant area. Describe where and why catch basin filters are implemented onsite, and what type of media is used, if applicable. Note that Figure 6.1-1 also states that filter replacement will depend on zinc concentrations at 001. The must be further defined.
  - ☐ Add a specific maintenance frequency for replacing catch basin inserts and sweeping. Please be aware that terms like "regularly" and "as needed" are to be avoided as they are ambiguous and do not sufficiently describe a set of criteria that the facility would use as a trigger for maintenance activities. According to facility records, catch basin cleaning, filter replacement, and sweeping take place semiannually. Ensure the SWPCP reflects these current onsite practices.
  - ☐ Update the SWPCP with the procedures for preparing the loading rack pavement before pressure washing to the storm system.

The City recommends the following actions to protect water quality:

- As an added control measure for oil, the City recommends using hydrophobic booms around affected storm drains during pavement pressure washing. Make sure to update the SWPCP if this BMP gets implemented.

The following pertains to the Maintenance and Operation of Private Stormwater Management Facilities – City Code 17.38:

The City has a Maintenance Inspection Program that inspects stormwater management facilities installed on private property per Portland City Code 17.38. The purpose of conducting these inspections is to ensure that the operations and maintenance (O&M) plan recorded with Multnomah County and on file with the City is being implemented by the current property owner or designee.

The stormwater management facility at this site is a StormFilter vault.

Observations:

- The StormFilter vault had no accumulated sediment present at the time of inspection. The vault was draining properly, and all filter cartridges were visible and in place. The vault was last maintained in September 2021.

The City appreciates NuStar's commitment to protecting water quality in the Portland Harbor. Please contact me at angelica.greene@portlandoregon.gov or 503-865-6555 if you have any questions.

Sincerely,

Angelica Greene
Industrial Stormwater Program

APPENDIX D
Dock Ops Operations Manual

NuStar
Portland Terminal
Dock Ops
Developed by:
JENSEN HUGHES
19450 State Highway 249, Suite 525 • Houston, Texas 77070 USA • Tel: 281-955-9600 • Fax: 281-955-0369 • info@trpcorp.com • www.emergency-response-planning.com

Portland Terminal

Dock Ops

9420 N.W. St. Helens Road
Portland, OR 97231

Plan Last Revised: 12/29/2022

Developed by:

JENSEN HUGHES

19450 State Highway 249, Suite 525 • Houston, Texas 77070 USA • Tel: 281-955-9600 • Fax: 281-955-0369 • info@trpcorp.com • www.emergency-response-planning.com

DOCK OPERATIONS MANUAL

Last Revised: December 29, 2022

© Jensen Hughes 2023

Figure 1 - COTP Examination

Figure 2 - Introduction

Figure 3 - Location Map

Figure 4 - Dock Plot Plan

Dock Plot Plan 2019 05 28

Figure 5 - Notifications and Telephone Numbers

Figure 6 - Dock Operations Manual Regulations (33 CFR 154.310)

Figure 7 - Declaration of Inspection

Figure 8 - Emergency Response Equipment

Figure 9 - Certificates of Adequacy

Figure 10 - Letters of Alternate Compliance and Exemptions

Figure 11 - Safety Data Sheets

Figure 12 - Additional Information

Declaration of Inspection
Op Manual Approval Dec 07, 2007
USCG Submittal & Acknowledgement of Dock Ops 10/01/13
USCG PIC Letter January 2021

Figure 13 - Distribution List

Figure 14 - Record of Changes

FIGURE 1 - COTP EXAMINATION

No Files Uploaded

FIGURE 2 - INTRODUCTION

This manual constitutes the Dock Ops Operations Manual for this facility. It provides operational guidance for transfers of oil or hazardous chemical cargoes from vessels. The format and contents of this manual are intended to meet the requirements of 33 CFR 154 and 156. Questions and comments regarding this manual should be referred to the Oil Movement Supervisor at the address and telephone number listed in this manual.

Changes in procedures or other significant information will be submitted to the Coast Guard Captain of the Port (COTP) having jurisdiction for examination. Amendments to personnel and telephone lists, and other routine supporting documents contained in the appendices will be made as they occur by substituting the revised pages in the appropriate section and sending a copy of those pages to the COTP. Examination stamps or letters indicating COTP approval of this manual follow the cover page.

Persons in charge (PIC) of oil transfers are personally responsible for having a copy of this manual in at their disposal whenever they conduct transfer operations. The PIC and the terminal operator conducting a transfer shall comply with published procedures and other guidance contained in this manual. Changes shall be promptly entered when received. If pages become obliterated or torn out, they shall immediately report it to the Oil Movement Supervisor and obtain the missing material.

FIGURE 3 - LOCATION MAP

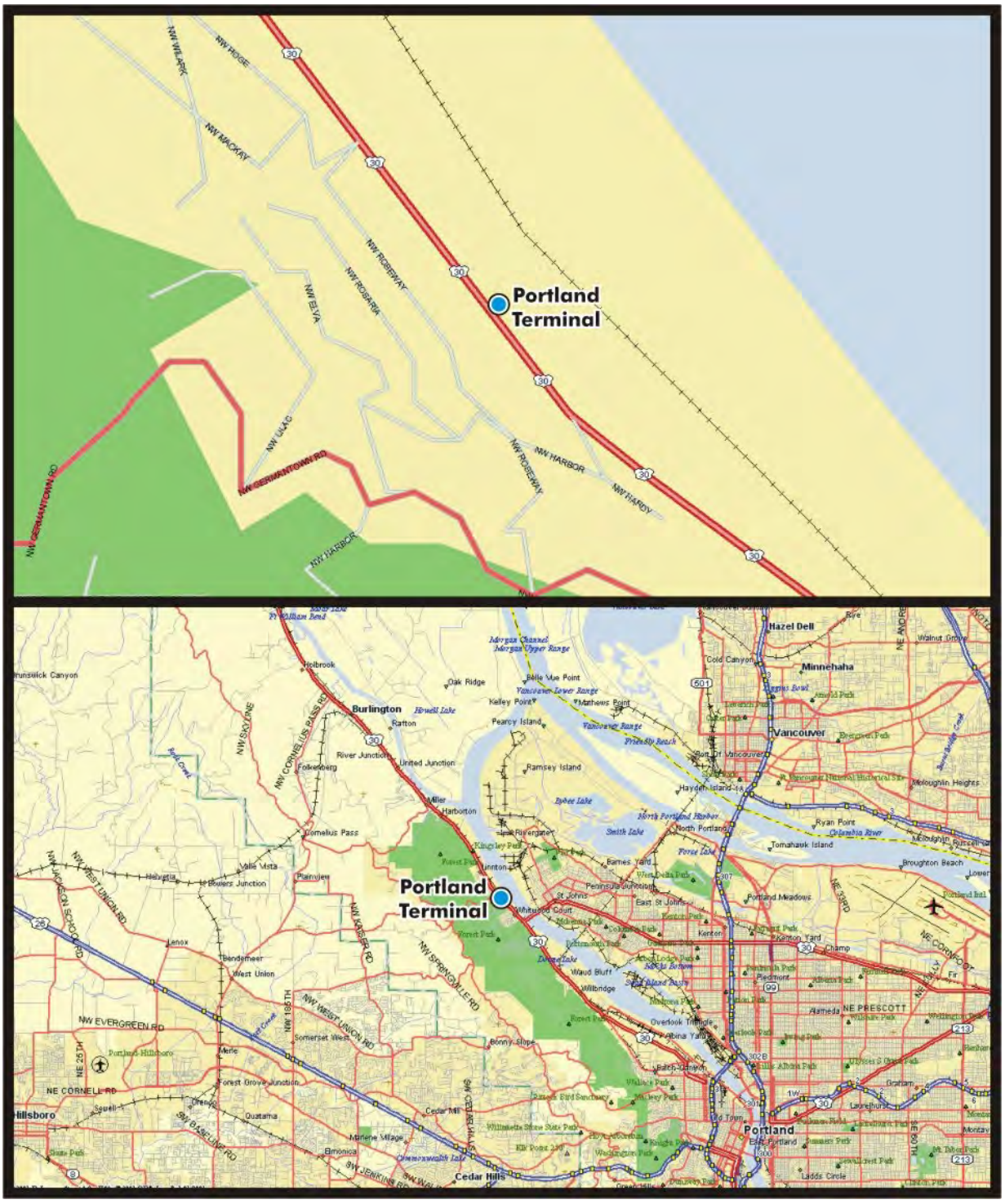
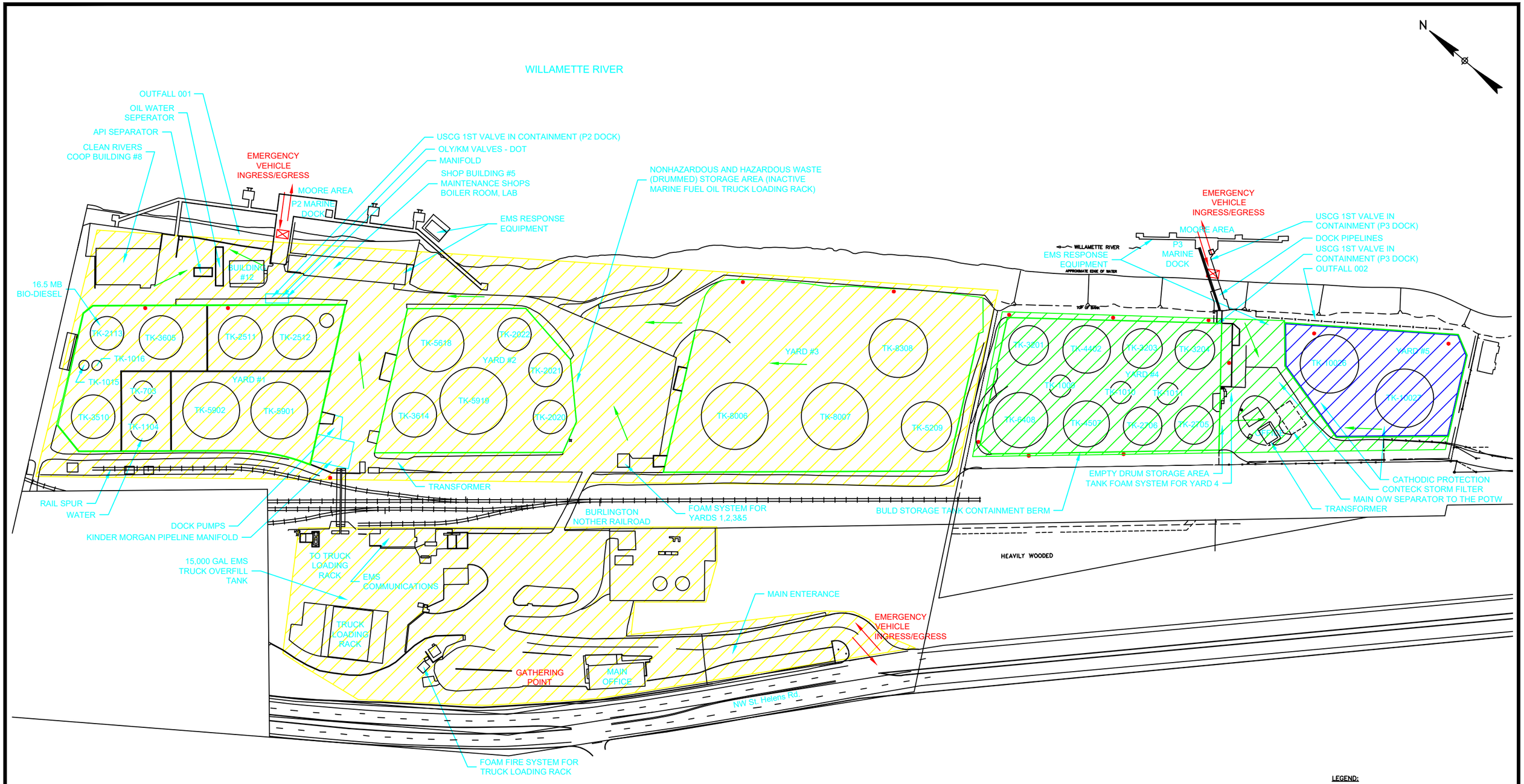


FIGURE 4 - DOCK PLOT PLAN

Click to view/print Dock Plot Plan 2019 05 28



LEGEND:

- CONTAINMENT BERM/WALL
- FIRE HYDRANT OR WATER SYSTEM
- EMERGENCY SHUT–OFF VALVE
- DIRECTION OF DISCHARGE
- YARD 5 TO CONTECH
- P2 DRAINAGE AREA
- P3 DRAINAGE AREA

NOTES:
1) CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION AND INSTALLATION.

REFERENCE DRAWINGS:

NO.	REVISION	BY	DATE	APR	
1	UPDATED VALVE CONTAINMENT P2/P3 DOCK	BJZ	05/28/19	CC	CC
0	ISSUED	BJZ	06/07/16	CC	CC

NuStar Energy L.P.
19003 IH–10 West
San Antonio, Texas 78257
Tel: (210) 918–2000
1–800–866–9060

PROJECT LOCATION:	Portland, OR		
DRAWN BY:	B. ZEPPIERI	DATE:	06/07/16
CHECKED:	C. CHAN	DATE:	06/07/16
APPROVED:	C. CHAN	DATE:	06/07/16
SCALE:	NONE		

PORTLAND TERMINAL SITE DRAINAGE PLAN

ORIGINAL PROJECT NO.

DRAWING NO. PORT–09–004 REV. 1

FIGURE 5 - NOTIFICATIONS AND TELEPHONE NUMBERS

Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)

Onsite Response Personnel

* 24-hour number

INCIDENT MANAGEMENT TEAM	
Qualified Individual/Alternate Qualified Individual(s)	
Ryan Groesbeck Terminal Manager - Portland Qualified Individual Responsibility During Response Action: Incident Commander Response Time: 1 (hours)	360-949-0913* (Mobile)
Jeff Hibner Terminal Manager - Vancouver Alternate Qualified Individual (Site Specific): QI/AQI, Operations Section Chief, Situation Unit Leader Response Time: 1 (hours) QI/IC Training	503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)
Aaron Flett Area Manager - PNW Alternate Qualified Individual Response Time: 1 (hours)	503-286-6732 (Office) 360-567-8871* (Mobile)
Response Training: Training records are available through NuTeach or Appendix A Prevention Training date/hrs: Training records are available through NuTeach or Appendix A Responsibility During Response Action:	
Incident Management Team (IMT)	
Ryan Groesbeck Terminal Manager - Portland Qualified Individual Responsibility During Response Action: Incident Commander Response Time: 1 (hours)	360-949-0913* (Mobile)
Kyle Bell Operations Supervisor Responsibility During Response Action: Operations Section Chief	971-275-2420* (Mobile)
Dale Combs Terminal Scheduler - Portland Responsibility During Response Action: Logistics Section Chief (Site Specific): Response Time: 2 hr for Vancouver and 6 hrs for Tacoma	503-286-6732 Ext. 7113 (Office) 360-904-0000* (Mobile)

Onsite Response Personnel, Continued

* 24-hour number

INCIDENT MANAGEMENT TEAM, CONTINUED	
Incident Management Team (IMT), Continued	
Leah VanEaton Operations Clerk - Portland Responsibility During Response Action: Finance Section Chief	503-286-6732 Ext. 7111 (Office) 971-322-6019* (Mobile)
Brandon Jeffers Sr Terminal Operator Response Time: 1 (hours)	
David Marshall Terminal Operator II Response Time: 1 (hours)	
Jason Ramsdell Terminal Operator Trainee Response Time: 1 (hours)	360-772-0315* (Mobile)
Jeffery Ames Terminal Operator Trainee Response Time: 1 (hours)	360-931-6818* (Mobile)
Matt Hartley Terminal Operator II Response Time: 1 (hours)	
Mike Wise Sr Terminal Operator Response Time: 1 (hours)	503-286-6732 (Office)
Michael Ward Terminal Operator II Response Time: 1 (hours)	
Rex Gilberston Maintenance Technician Trainee Response Time: 1 (hours)	
Robert Bay Sr Terminal Operator Response Time: 1 (hours)	
Tom Hartley Sr Terminal Operator Response Time: 1 (hours)	

Offsite Response Personnel

* 24-hour number

REGIONAL RESPONSE TEAM (RRT)	
Regional Response Team (RRT)	
Aaron Flett Area Manager - PNW Alternate Qualified Individual Response Time: 1 (hours)	503-286-6732 (Office) 360-567-8871* (Mobile)
Terry Schulte Director Safety & Operational Excellence	707-567-6885* (Mobile)
Terry Schulte Director Corporate VPP Responsibility During Response Action: Safety Officer Response Time: 6 (hours)	707-567-6885* (Mobile)
Ana Bertolucci Sr. Mgr Regional HR & PA	916-296-3761* (Mobile)
Rena Swafford Human Resource Advisor	916-207-5246* (Mobile)
Buddy Stubblefield Manager, HSE – West Region (Site Specific): Liaison Officer Response Time: 10 (hours)	916-753-4756* (Mobile)
Don (JR) Marti, Jr. Supervisor - HSE Responsibility During Response Action: Safety Officer	360-772-1918* (Mobile)
Joe Hufman Terminal Manager - Wilmington Responsibility During Response Action: QI/AQI, Planning Section Chief	310-427-9785* (Mobile) 310-507-1127 (Office)
Jennifer Polk HSE Manager - West Region Responsibility During Response Action: Planning Section Chief, Environmental Unit Support	512-913-7493* (Mobile)
Jeff Hibner Terminal Manager - Vancouver Alternate Qualified Individual (Site Specific): QI/AQI, Operations Section Chief, Situation Unit Leader Response Time: 1 (hours) QI/IC Training	503-286-6732 Ext. 7118 (Office) 206-445-8152* (Mobile)
Leah VanEaton Operations Clerk - Portland Responsibility During Response Action: Finance Section Chief	503-286-6732 Ext. 7111 (Office) 971-322-6019* (Mobile)
Leticia Holbert Superintendent Inventory & Traffic - Selby Responsibility During Response Action: Finance Section Chief	510-375-3495* (Mobile) 510-787-1076 Ext. 3504 (Office)
Jennifer Costello Vancouver Supervisor Inventory & Traffic Finance Section Chief	360-448-3888* (Mobile) 360-694-8591 (Office)
Stephan Rosen Sr. HSE Manager - West Region (Site Specific): Environmental Unit Leader Response Time: 10 (hours)	925-212-2894* (Mobile) 510-787-1076 (Selby Terminal) (Office)
Kirubhakaran Vyravan (Site Specific): Resource Unit Leader Response Time: 10 (hours)	510-806-5083* (Mobile)

* 24-hour number

JOINT REGIONAL RECOVERY TEAM (JRRT)	
Joint Regional Recovery Team (JRRT)	
Shawnna Poor Sr. Manager Security & Emergency Response (Site Specific): Situation Unit Leader Response Time: 12 (hours)	210-918-2765 (Office) 210-854-4202* (Mobile)
Larry Thompson Sr Mgr Corporate Safety (Site Specific): Safety Officer	210-918-2218 (Office) 918-402-9990* (Mobile)
Alonso Rodriguez Sr Manager Pipeline Safety Responsibility During Response Action: Liaison Officer	806-336-0712* (Mobile)
Tricia Dietrich Petty Exec. Director of Health & Safety (Site Specific): Logistics and Planning Section Chief Response Time: 12 (hours)	210-918-2126 (Office) 210-382-3813* (Mobile)
Tresmon Smith Sr Manager Surveying Responsibility During Response Action: Air Ops Branch Director Response Time: 12 (hours)	210-918-2273 (Office) 210-775-8892* (Mobile)

* 24-hour number

CORPORATE EMERGENCY OPERATIONS CENTER (EOC)	
Corporate Emergency Operations Center (EOC)	
Kyle Oppliger VP Terminal Operations Responsibility During Response Action: Corporate EOC - EOC Manager, Terminal Operations Support	210-918-2074 (Office) 409-200-0609* (Mobile)
Gary Koegeboehn VP Pipeline Operations Responsibility During Response Action: Corporate EOC - EOC Manager, Pipeline Operations Support	210-918-2385 (Office) 316-655-8056* (Mobile) 316-655-8056 (Home)
John Koenig VP Engineering Responsibility During Response Action: Corporate EOC - Engineering	210-918-2414 (Office) 210-232-8708* (Mobile)
Heath Reininger Executive Director Real Estate & ROW Responsibility During Response Action: Corporate EOC - Right Of Way (ROW)	210-918-2472 (Office) 830-237-8761* (Mobile)
Chris Cho Director Corp Communications Responsibility During Response Action: Corporate EOC - Corporate Communications Response Time: 10 (hours)	210-918-3953 (Office) 210-831-8382* (Mobile)
Chris Rulon VP Assistant General Counsel Responsibility During Response Action: Corporate EOC - Legal Advisor	210-918-2048 (Office) 210-394-0158* (Mobile)
Mike Dillinger VP Environmental, Sustainability & Permitting Responsibility During Response Action: Corporate EOC – Regulatory Affairs Advisor	210-918-2091 (Office) 703-232-3752* (Mobile)
Shay Bluntzer Executive Director Public Affairs Responsibility During Response Action: Corporate EOC - Public Affairs Advisor	210-918-2234 (Office) 210-633-6294* (Mobile)
Walter Thompson Executive Director Enterprise Architecture/Cyber Security Responsibility During Response Action: Corporate EOC - Cybersecurity Officer	210-918-4666 (Office) 210-289-0453* (Mobile)
Ron Walton VP, Risk Management Risk Management	210-918-2258 (Office) 210-323-9848* (Mobile) 210-497-0578

Emergency Response Contractors

* 24-hour number

EMERGENCY RESPONSE CONTRACTORS						
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)	RESPONSIBILITY DURING RESPONSE ACTION	RESPONSE TRAINING TYPE[1]		
				1	2	3
Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc Portland , OR	503-220-2040 503-295-3660 (Fax) info@pdxmex.com (Email)	1	CRC provides staffing for all emergency response if none is available at the facility at the time. OSRO for Vancouver, WA and Portland, OR terminals			

EMERGENCY RESPONSE TRAINING TYPE[1]	
TYPE	DESCRIPTION
1	29 CFR 1910.120 HAZWOPER
2	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI Components
3	Qualified Individual/Incident Command Training

External Contacts Directory

* 24-hour number

EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS		TIME CONTACTED
Initial Notifications		
National Response Center	800-424-8802*	
Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	503-378-6377 503-378-3387 (800) OILS-911 (In-State)	
Federal Agencies (as needed)		
EPA Region X	206-553-1263 206-553-4973 (On Duty Officer) 800-424-4372 (Spill)	
Occupational Safety and Health Administration (OSHA) Washington DC	1-800-321-OSHA(6742)* Emergency	
U.S. Coast Guard - Thirteenth District, Portland, OR	503-240-9365 (Office)	
U.S. Coast Guard - Marine Safety Unit, Portland, OR	503-240-9310 503-240-9301* (watchstander) 503-240-9379 (safety office) Sector Columbia River (503) 561-6211	
NOAA Law Enforcement & Mammal Protection	206-526-6133	
NOAA National Marine Fisheries Service	206-526-6317 (Press 1#)	
U.S. Fish and Wildlife Service (USFWS), Northeast Regional Office, Hadley, MA	413-253-8200 413-253-8456 (Fax)	
U.S. Fish and Wildlife Service, Region I	503-231-6223	
State Agencies (as needed)		
Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	503-378-6377 503-378-3387 (800) OILS-911 (In-State)	
Oregon Department of Environmental, Air Quality Div.	503-229-5359	
Oregon Department of Fish & Wildlife Columbia River Management	503-947-6000	
Oregon Department of Fish & Wildlife Headquarters	503-947-6000	
Oregon Department of Transportation (Highways Division)	503-986-4000	
Oregon Emergency Management	503-378-2911	
Oregon State Fire Marshall	503-378-3473	
Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	503-378-6377 503-378-3387 800-452-0311 (In-state) 800-OILS-911 (In-state)	
Oregon State Police, Portland, OR	503-578-3387 503-731-3030	
Washington Department of Ecology (DOE), Southwest Region	360-407-6300* 360-690-7171 360-407-6900 (Headquarters) *Field Office is the -7171 number	
Washington Department of Fish & Wildlife Oil Spill Team	360-534-8233 (24/7) (Pager)	
Washington Emergency Management Division	800-258-5990	
Local Agencies (as needed)		
City of Portland - Environmental Services	503-823-7180* 503-323-3398 503-823-8805	
Multnomah Co. Emergency Management (LEPC)	503-618-2363	
Multnomah Co. Environmental Health	503-988-3400	
Multnomah Co. Transportation Division	503-988-5050	
Port of Portland General Office (not for spill)	503-944-7000	
Port of Portland Marine Security	503-240-2230	
Portland Water Bureau Emergency (water pipe burst only)	503-823-4874	
St. Helens City Public Works	503-397-3532	
Fire Departments (as needed)		

Portland Fire Department	911* 503-823-3700	
Emergency Medical Services (as needed)		
American Medical Response	503-282-2232	
Hospitals (as needed)		
Emanuel Hospital & Medical Center	503-413-2200	

External Contacts Directory, Continued

* 24-hour number

EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED		TIME CONTACTED
Hospitals (as needed), Continued		
Good Samaritan Hospital & Medical Center	503-413-7711 503-413-7241	
Law Enforcement (as needed)		
Multnomah Co. Sheriff Department	503-988-6788 (Office) 503-288-6788 (River Patrol in Progress)	
Portland Police Bureau	503-823-3333	
Neighboring Facilities (as needed)		
Boise Cascade Paper Division	503-397-2900	
Dyno Nobel Chemical - Environmental Department	503-397-2225	
Olympic Pipeline Control Center	425-235-7726 888-271-8880 (emergency)	
Rainier City	503-556-7301	
Kinder Morgan	732-541-5161	
Kinder Morgan Co.	732-969-5700	
Radio Stations (as needed)		
KEX Radio	503-225-1190	
Television Stations (as needed)		
KATU Channel 2	503-231-4222	
KGW Channel 8	503-226-5000 503-226-5111	
KOIN Channel 6	503-464-0600	
Utilities (as needed)		
Portland General Electric	503-464-7777	
Weather (as needed)		
Weather Forecast - Portland	503-261-9246	
Wildlife Rehabilitation (as needed)		
Clean Rivers Wildlife Rescue (Oregon)	503-220-2040*	
Tri-State Bird Research and Rescue	302-737-9543 (Office) 302-737-9562 (Fax)	

External Contacts Directory, Continued

* 24-hour number

FORMER BP TERMINAL (NOW SEAPORT)	TIME CONTACTED

External Contacts Directory, Continued

* 24-hour number

FOSS MARINE	TIME CONTACTED

External Contacts Directory, Continued

* 24-hour number

KINDER MORGAN	TIME CONTACTED

Oil Spill Removal Organizations

* 24-hour number

OIL SPILL REMOVAL ORGANIZATIONS (OSROS)	
USCG CLASSIFIED OSRO	
Vancouver / Portland OSRO - Clean Rivers Cooperative, Inc (Site Specific): CRC provides staffing for all emergency response if none is available at the facility at the time. OSRO for Vancouver, WA and Portland, OR terminals Response Time: 1 (hours) Portland , OR	503-220-2040 503-295-3660 (Fax) info@pdxmex.com (Email)

FIGURE 6 - DOCK OPERATIONS MANUAL REGULATIONS (33 CFR 154.310)

FACILITY INFORMATION			
Name of Facility:	Portland Terminal	**Type of Facility:**	Onshore/Non Production
Location of Facility:	9420 N.W. St. Helens Road Portland, OR 97231	**Name & Address of Owner or Operator:**	Shore Terminals LLC 19003 IH-10 West San Antonio, TX 78257
Latitude/ Longitude:	45° 35' 19.7" N 122° 46' 23.2" W	**Mile Marker:**	5.3

33 CFR 154.310(a) - (2) Physical description of Facility

33 CFR 154.310	
(2) Physical description of Facility	
	• This dock facility is capable of transferring cargo to and from tankers and barges.
	• The Facility is surrounded by chain link fence. The gates are operated either manually by the Terminal Personnel after receiving voice communications through an intercom system or through a card reader system using access cards.
	• Valves and pumps used for transfer of oil involving vessels are operated manually or by local actuators.

33 CFR 154.310(a) - (3) Hours of Operation

33 CFR 154.310
(3) Hours of Operation
• The Dock is available for operation 24 hours per day, 7 days per week.

33 CFR 154.310(a) - (4) Vessel Information

33 CFR 154.310	
(4) Vessel Information	
	• The Facility is capable of transferring oil simultaneously from (1) vessel at the North Dock and (1) vessel from the South Dock.
	• Vessel Type: barge and ship
	• Vessel Capacity: North Vessels - 60,000 DWT. and South Vessels - 50,000 DWT.
	• Vessel Length: North Vessels - 660 feet (maximum) and South Vessels - 500 feet (maximum).
	• Transfer Rate: North Dock - Unloading rate - 10,000 Bbls/Hr. Loading rate - 3,500 Bbls/Hr. South Dock - Unloading rate - 10,000 Bbl/Hr Loading rate - 3,000 Bbl/Hr (JP-8).
	• Construction: North Dock - wood and steel piling with a concrete deck. South Dock - wood piling with concrete deck.
	• Containment System: North Dock - 10,000-gallon oil/water separator. South Dock - 5,000-gallon containment tank.
	• Unmanned Vessels: Under no circumstances is a vessel undergoing transfer allowed to be left unattended. Continuous surveillance of the vessel is demanded of the carrier.

33 CFR 154.310(a) - (5) Product Description (Refer to FIGURE 11 for product MSDS's)

33 CFR 154.310
(5) Product Description
• The dock at this facility conducts vessel transfer operations of the following cargo: Gasoline, Jet Fuel, Fuel Oil (No. 1, 2, 4, 5, and 6), Ethanol, Gasoline Additives, JP-8, and Diesel.
• Safety Data Sheets (SDS) are located in FIGURE 11 and are maintained at the Facility.
• **Cargo Appearance**
• The cargo handled by this Facility has the following appearance characteristics: • Gasoline - Clear, red or lime. • Fuel Oil - Black. • Diesel - Amber or clear. • Jet Fuel and Ethanol - Clear.
• **Cargo Odor**
• The cargo handled by this Facility has the following odor characteristics: • Gasoline and Jet Fuel - Gasoline odor. • Diesel and Fuel Oil - Fuel oil or kerosene odor. • Ethanol - Alcohol odor.
• **Cargo Handling Hazards**
• Gasoline, Diesel, Fuel Oil and Jet Fuel: • Harmful if swallowed. • Liquid irritating to eyes and skin. • Vapor irritating to eyes, nose, and throat. • High concentrations or prolonged breathing can cause headache, nausea, dizziness, and unconsciousness. • Gasoline - Extremely flammable, may be ignited by heat, sparks, or open flame.
• Gasoline Only: • This product contains benzene • Repeated high level benzene exposure may produce injury of the blood-forming tissues causing anemia and possibly leukemia.
• Ethanol: • Liquid irritating to eyes, nose, and throat. • Headache and drowsiness may occur. • Liquid causes intoxication. • Vapor irritating to eyes, nose, and throat in high concentrations.
• **Cargo Safe Handling Instructions**
• Extreme care should be exercised when cargo transfer operations are in progress.
• Those persons involved in the operations should: • Insure that the cargo is not spilled onto any decks/walking surfaces. • Insure that the cargo is not spilled onto any land or waterway. • Insure that any and all fire hazards are eliminated prior to commencing transfer. • While conducting the connection and disconnection operations, Facility personnel wear gloves, hard hat, safety glasses, and life vests.
• **Cargo Specific Spill/Exposure Procedures**

33 CFR 154.310(a) - (5) Product Description (Refer to FIGURE 11 for product MSDS's), Continued

33 CFR 154.310	
(5) Product Description	
	• In the event of personnel exposure to the cargo, the following actions should be taken: • Shut down the transfer operation. • Eye Contact: Flush with low-pressure water for 15 minutes (MTBE: 20 - 30 minutes) while holding eyelids open. Get medical attention. • Skin Contact: Remove contaminated clothing and shoes and flush exposed area with water. Wash with soap and water. (MTBE: Flush with luke warm water for 15 minutes. If sticky, use waterless cleaner first.) • Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention. • Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. In general, no treatment is necessary unless large quantities of product are ingested. Get medical attention.
	• **Cargo Firefighting Procedures**
	• In the event of a fire or explosion during any cargo handling operation, the following firefighting guidelines should be observed:
	• Immediately eliminate the source of the fire (notify Vessel Person-In-Charge, shut down pumps, close block valves, etc.).
	• IF SAFE, make every effort to mitigate the damage and prevent the fire from spreading by fighting the fire as follows: Extinguishing Media: • Diesel, Fuel Oil and Jet Fuel: Small Fire-dry chemical or carbon dioxide. • Gasoline and Ethanol: Small Fire - dry chemical or carbon dioxide.
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.

33 CFR 154.310(a) - (6) Personnel Required and their Duties during transfer operations

33 CFR 154.310
(6) Personnel Required and their Duties during transfer operations
Personnel Required
• The minimum number of duty personnel required at the Facility are: One (1) Facility PIC at each active dock and One (1) Terminal Operator.
2. FACILITY OPERATOR
• Cargo transfer operations are performed by a Facility Person-In-Charge (PIC) and a Vessel Person-In-Charge. The Facility PIC will perform/oversee the startup and shutdown of each transfer operation.
• The responsibilities of the Facility Person-In-Charge include the following: • Provide constant surveillance of cargo transfer operations, and remain in the immediate vicinity to oversee the entire transfer area. • Discontinue all cargo transfer operations if either PIC must abandon his post for any reason during the transfer. • Ensure that all cargo transfer operations are conducted in a safe and efficient manner.

33 CFR 154.310(a) - (7) Emergency Telephone Numbers

33 CFR 154.310
(7) Emergency Telephone Numbers
• See FIGURE 5 for a list of phone numbers to be used for emergency reporting.

33 CFR 154.310(a) - (8) Duty Watchman

33 CFR 154.310	
(8) Duty Watchman	
	• The Facility does not have a person designated as a Watchman. Responsibility for security and control will be that of all duty personnel.
	• The Facility Person-In-Charge (Dock Operations Associate) shall be responsible for exercising control and surveillance of the Facility and dock area during all cargo transfer operations including the following: • Confirm status of mooring lines from Vessel PIC. • Confirm Vessel PIC secures all cargo hatch covers firmly to assure opening cannot be performed by hand (i.e. dogging tool, if appropriate).
	• The Terminal Operator is responsible for obtaining gauges on the shore tanks to insure availability of product, or tank space necessary for completion of transfer. Any discrepancies noted must be reported to the supervisor in charge and the appropriate inventory clerk. Under no circumstances is the transfer operation to commence until all discrepancies have been checked and corrected.
	• The Terminal Operator must inform the Facility PIC of: • The status of each tank to be used in the transfer operation prior to product movement. • Any stop gauges, and when possible, calculate the approximate time of the actual stop. • Any empty tanks that will be transferred to so that appropriate procedures may be followed.

33 CFR 154.310(a) - (9) Transfer Communication System

33 CFR 154.310	
(9) Transfer Communication System	
	• The cargo transfer operations will be conducted utilizing the following communications systems:
	• Upon execution of the Declaration of Inspection, the Facility PIC will provide the Vessel PIC with a Facility handheld radio for communication during the transfer operation. One Facility tank farm operator also monitors the frequency with one radio.
	• The communications equipment is intrinsically safe and is either marked on the equipment or documented in Facility records.
	• The radio sets are maintained by the Facility.
	• Visual communication between the Facility PIC and Vessel PIC.
	• Additional communication capability is provided by two way radio, between personnel throughout the terminal, a telephone in the North Dock and intrinsically safe cell phones.
	• The Vessel and the Facility Persons-In-Charge must speak a mutual language. However, a third person acting as an interpreter is acceptable providing that they remain with the Person-In-Charge at all times.

33 CFR 154.310(a) - (10) Personnel Shelters

33 CFR 154.310	
(10) Personnel Shelters	
	• Dock House(s) (Personnel Shelter): The North Dock House is located on the dock adjacent to the loading and unloading manifold and main dock approach. The South Dock House is located on the dock.
	• The Dock House has: • Radios (handheld) • Phone • Heat • Tools • Fire extinguisher • Personal Floatation Device • Equipment to safely receive and discharge all product.
	• There is also a personnel shelter at the main office. Additionally, there are telephone booths for each shelter. The Terminal Operations Associates utilize these booths during the complete loading operations.

33 CFR 154.310(a) - (11) Drip and Discharge collector

33 CFR 154.310	
(11) Drip and Discharge collector	
	• **North Dock**
	• The work area, which includes all piping, and loading equipment is self-contained, bermed, and concrete surfaced. The work area drains to the plant's API oil-water separator.
	• In the event of a drip or leak, all unloading is stopped and the Facility is repaired before any further offloading is permitted.
	• **South Dock**
	• A fixed drain collection and processing system is installed on the dock. Collection capacity is 40 Bbls. and is adequate to handle discharges during rainstorms. Any accumulation is piped automatically from collector to a steel sump at shoreline, then pumped (by using a float operated automatic sump pump) to the storm water surge tank located on shore.
	• In the event of a drip or leak, all unloading is stopped and the Facility is repaired before any further offloading is permitted.
	• **The Facility has the following discharge containment capabilities:**
	• North Dock • 10 bag of sorbent pads (Warehouse by Dock) • Spill Response Boat • 1,000 ft. of 18" containment boom (On Shore)
	• South Dock: • 3,000 ft. of 18" containment boom (South Dock Float)

33 CFR 154.310(a) - (12) Description and Location of each emergency shutdown system

33 CFR 154.310	
(12) Description and Location of each emergency shutdown system	
	• The Facility has the following emergency shut-down capabilities:
	• North Dock: • Emergency shut-off switches for the transfer pumps secure the pumps within 60 seconds and are located outside the dock shelter.
	• South Dock: • ESD on pumps. • Each product line has a valve that can be secured in the event of an emergency. • An emergency shut down switch is provided at the North Dock. Activating this switch will shut off power to ALL pumps used for barge loading and close block valves. Pumps will not operate until the “Reset” buttons are pushed on their respective starters. All starters are physically located in the electric room in the northwest corner of the garage. • Each vessel is equipped with an emergency shut down system, which can be activated by the Vessel Person-In-Charge who remains in radio contact with the Facility Person-In-Charge. • The Facility and Vessel Persons-In-Charge will make themselves familiar with the emergency shut down systems before the transfer begins.

33 CFR 154.310(a) - (13) Monitoring Devices

33 CFR 154.310
(13) Monitoring Devices
• The Facility does not operate an automated monitoring system; however, the following additional operating procedures are employed: • Monitoring pressure gauges during transfer. • Constant communications between the dock, terminal, and vessel personnel.

33 CFR 154.310(a) - (14) Spill Containment

33 CFR 154.310	
(14) Spill Containment	
Quantity and type of equipment	
	• Containment of a cargo spill from the dock area will be through the utilization of the contract resources (OSROs) identified in the Integrated Contingency Plan.
Equipment Location	
	• A list of the type, amount, and location of terminal equipment and supplies is detailed in FIGURE 8.
Instructions for use	
	• Refer to FIGURE 8 and 33 CFR 154.310(a)(15).
Equipment access time	
	• Terminal equipment and supplies identified in FIGURE 8 are directly controlled by the terminal staff and are immediately available.

33 CFR 154.310(a) - (15) Fire extinguishing equipment

33 CFR 154.310	
(15) Fire extinguishing equipment	
Quantity type and location	
	• Fire Fighting Equipment and its location for the facility is detailed in FIGURE 8.
	• **Fire Alarms:** The North Dock is equipped with a Honeywell Fire Monitoring System. This system is accompanied by two pull stations located on the dock by the personnel shelter and at the dock approach area next to the maintenance shop. At the South Dock, the alarm shall be sounded by use of direct intercom between control stations, walkie-talkie, radios, or voice communications.
	• **Fire Extinguishers**
	• **North Dock:** • Ten (10) 20-pound portable ABC fire extinguishers are located throughout the North Dock. • One (1) sprinkler system located beneath the dock (activated automatically). • Six (6) Siamese fire hydrants (Dock).
	• **South Dock:** • Two (2) 20-pound portable ABC fire extinguishers are located on the South Dock. • Two (2) fire hydrants. • Walkie-talkie radios located in Operator's Office.
Instructions for use	
	• **Operation of the 20 lb. dry chemical extinguishers:**
	• Remove extinguisher from its station carrying the handle in one hand and placing the other hand under the shell.
	• Use the handle to carry the extinguisher to the fire. Walk at a rapid pace. **DO NOT RUN.**
	• Proceed to the upwind side of the fire. Stay clear of the flames. When you are approximately 10 feet upwind of the near edge, stop, remove the nozzle from the holder, and pull the hose free. Remove the ring pull.
	• Position yourself within 8 feet of the edge of the upwind side of the fire. From this position, the air currents help carry the agent into the fire, assure maximum visibility, and provide protection from the heat.
	• Squeeze the nozzle handle to the full open position, aim the resultant stream just short of the near edge and immediately start a side-to-side sweeping motion across the full width of the fire. Make sure each sweep of the dry chemical stream is slightly wider than the near or leading edge.
	• Advance forward only as fast as the extinguishing action of your agent will permit. Do not outrun your protection.
	• Advance cautiously - do not raise your stream to chase the flames. Keep down in front of the flame edge.
	• Stop short of the already extinguished edge of the fuel spill area. Do not become involved in the fire. Above all, maintain the side-to-side sweeping action until the fire is extinguished. Once the fire is extinguished, stand by for a few minutes to make sure a re-flash does not occur. Never turn your back on an apparently extinguished fire.
	• **Operation of the 150 lb. wheeled fire extinguisher:**

33 CFR 154.310(a) - (15) Fire extinguishing equipment, Continued

33 CFR 154.310	
(15) Fire extinguishing equipment	
Instructions for use	
	• Wheel the extinguisher to the fire so the nozzle hose will reach the fire. Uncoil the extinguisher hose. Walk at a rapid pace. **DO NOT RUN**.
	• Proceed to the upwind side of the fire. Stay clear of the flames. Break nitrogen cylinder seal and open valve.
	• Position yourself within 8 feet of the edge of the upwind side of the fire. From this position, the air currents help carry the agent into the fire, assure maximum visibility, and provide protection from the heat.
	• Take a firm hold on the nozzle, brace yourself and pull back on the nozzle handle to the full open position, aim the resultant stream just short of the near edge and immediately start a side-to-side sweeping motion across the full width of the fire. Make sure each sweep of the dry chemical stream is slightly wider than the near or leading edge.
	• Advance forward only as fast as the extinguishing action of your agent will permit. Do not outrun your protection.
	• Advance cautiously - do not raise your stream to chase the flames. Keep down in front of the flame edge.
	• Stop short of the already extinguished edge of the fuel spill area. Do not become involved in the fire.
	• Above all, maintain the side-to-side sweeping action until the fire is extinguished.
	• Once the fire is extinguished, stand by for a few minutes to make sure a re-flash does not occur.
	• Never turn your back on an apparently extinguished fire.
	• **General Operating Procedures:** • Stay upwind of fire approximately 8 feet. • Remove ring pin, if present. • Depress puncture handle fully. • Squeeze nozzle handle and apply chemical. • Aim stream just short of near edge and start side-to-side sweeping motion. • Advance forward only as fast as extinguishing agent will permit. • Do not raise stream to chase flames.

33 CFR 154.310(a) - (16) Maximum allowable working pressure (MAWP)

33 CFR 154.310	
(16) Maximum allowable working pressure (MAWP)	
Loading Arms	
	• Loading equipment is provided by the Facility.
	• Any hose, transfer equipment, and pipe systems are designed not to burst, bulge, leak, or abnormally distort under static test pressure of 1-1/2 times the system's maximum allowable working pressure of 100 psi. The test pressure shall be held for one hour.
Transfer Pipe System	
	• The lines (MAWP of 100 psi) are pressure tested at 150 psi for 60 minutes.
	• The lines at the dock are hydrostatically tested annually.
Hose assembly	
	• Hoses are provided by the Facility.
	• Maximum pumping pressure is approximately 100 psi.
	• The system is annually hydrostatically tested to 150 psi.
Relief valve settings or maximum system pressure with out relief valves	
	• **North Dock:** • The pressure relief valves are set at 80 psi and allow the return of product in the dock lines to the shore storage tanks. • All above ground piping, valves, manifold, and relief system are visually checked for leaks and proper operation prior to and after each transfer. • The dockside facility is equipped with a pressure gauge for periodic visual pressure monitoring.
	• **South Dock:** • The pipelines have pressure relief systems around all block valves. These relief systems relieve thermal pressure developed in the pipelines back into the tanks. • The dockside facility is equipped with a pressure gauge for periodic visual pressure monitoring. • All above ground piping, valves, manifold, and relief system are visually checked for leaks and proper operation prior to and after each transfer.

33 CFR 154.310(a) - (17) Transfer Procedures

33 CFR 154.310	
(17) Transfer Procedures	
(i) Loading Arm	
	• Loading equipment is provided by the Facility.
(ii) Transferring Oil	
	• The Person-In-Charge(s) should monitor mooring conditions of the vessel.
	• The Person-In-Charge will observe the gauging of the vessels tank(s) by the vessel representative. The Person-In-Charge must relay these figures to the Person-In-Charge of the shore operation to verify that enough room is available in the receiving tank(s). The PIC must ensure that shore receiving tanks have adequate capacity.
	• The pumping operation will commence with the Person-In-Charge unlocking and opening the dock valve for the tank, only after verbal verification by the Vessel PIC as to the readiness of the vessel to discharge that particular cargo into the shore tank.
	• As the pumping operation commences, the actual times of start-up of the ship's pumps are to be recorded in the dock log for each product being discharged.
	• When required, samples must be taken by the Person-In-Charge. Any irregularities in the samples will necessitate immediate shutdown of that product line after notifying vessel personnel and the Person-In-Charge of the shore tank. The Person-In-Charge will then inform the supervisor in charge who in turn will notify the customer representative and await instructions. If the product sample is satisfactory, it will be properly tagged by the Person-In-Charge and retained for sixty (60) days in a designated area.
	• Note: A periodic check by the person-in-charge of the shoreside hose/loading arm hookups is mandatory to insure that there is no leakage of the system.
	• The Person-In-Charge must record periodic pipeline pressures for appropriate vessel (or lines), which will indicate any change in rate or problem in the system.
	• Person-In-Charge will notify vessel at least 15 minutes before: • Any stop or change of Cargo transfer rate. • Stripping of any tanks. • The switching of any tanks.
	• Note: The pumping pressure is not to exceed 100 psi.
	• A qualified Person-In-Charge of the transfer operation on the vessel must be on duty and in direct communication with the shore facility during the entire operation. If the vessel is not in compliance with this procedure, the Person-In-Charge will notify the supervisor in charge. If the vessel refuses to comply, the transfer operation will be terminated.
	• A Facility Person-In-Charge must remain on the dock during the entire transfer operation checking dock valves, pressure gauges, hose connections, ground connections, vessel moorings and other pertinent duties. The Person-In-Charge may go on board the vessel when deemed necessary. The personnel shelter has a window(s), which allow the Person-In-Charge to view the dock manifolds.
	• In case of a hose break, leak or spillage from the vessel or Terminal, the Facility Person-In-Charge must notify the appropriate shore and vessel personnel that the transfer operations have to be terminated. After closing the shore side valves, the Facility Person-In-Charge will notify the supervisor in charge who will take the necessary action.

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310	
(17) Transfer Procedures	
(ii) Transferring Oil	
	• In case of a vessel or Terminal fire, the entire operation shall be immediately terminated and all valves closed. The supervisor in charge shall be notified and the necessary action taken.
	• The Person-In-Charge is required to note any unusual occurrences or delays while the vessel is present, under the section "Remarks" on the dock log.
	• The Terminal Operator must gauge the receiving tanks periodically and report the figures to the Person-In-Charge of the docks. If the Person-In-Charge does not obtain the gauges within a reasonable amount of time, he must stop pumping the specific product(s) until the figures are obtained. The supervisor on duty may make exceptions as follows:
	• No open fires shall be permitted on docks or vessels tied up at docks.
	• Flame screens must be placed and secured in ullage hatches at all times while the transfer operation is in progress except when the tank(s) are being sampled and gauged.
	• No vessel shall be permitted to tie-up at the Facility docks without permission.
	• All portholes must be screened or closed at all times to prevent cigarette butts, matches, and so forth, form being thrown through the port holes. In addition, all doors and port holes from living quarters facing the Main Dock on ships must be kept closed.
	• Ship's officers shall not cause or allow towboats or other small boats to come alongside or within hazardous distance while the transfer operation is in progress or the ullage ports are open.
	• While a vessel is moored at a dock, it is the duty of the Facility Person-In-Charge to: • Prevent tampering with dock equipment, headers and facilities. • Enforce "No Smoking" rules. • Keep unauthorized personnel and vehicles off dock. • Observe the surrounding waters and shorelines to detect the presence of oil. • Assist with communications between the ship and the Terminal. • Observe the dock facilities to detect any discharges, leakage or other abnormal conditions. • Perform other such duties as may be specified by the supervisory personnel.
	• Upon completion of the pumping operation and hose removal, the Person-In-Charge must inspect all compartments on board to verify that all product has been pumped ashore. If any product remains in a compartment and cannot be pumped ashore, the customer representative must be contacted and Person-In-Charge will await further instructions.
(iii) Completion of Pumping	
	• The Person-In-Charge must ensure that vessel tanks have adequate capacity to receive product and that the product in the tank is the appropriate product.
	• Prior to commencement of transfer operations, the Person-In-Charge must verify with the Terminal Operator the tank number, product identity and system readiness. The Terminal Operator must gauge the shore tank prior to pumping.
	• The pumping operation will commence with the Person-In-Charge of the docks opening the dock valve for the said tank(s) only after verbal verification by the Person-In-Charge on the vessel as to the readiness of the vessel to receive that particular cargo.

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310	
(17) Transfer Procedures	
(iii) Completion of Pumping	
	• When loading the vessel, the initial flow shall be at a slow rate (gravity when possible) until the vessel's tank(s) contain at least six inches of product above its suction line with no evidence of turbulence in the tank(s). Normal loading may then commence.
	• The Person-In-Charge must record the actual times of start-up in the Dock Log for each product being transferred.
	• When required, samples must be taken by the Person-In-Charge. Any irregularities in the samples will necessitate immediate shutdown of that product line after notifying vessel personnel and the Terminal Operator. The Person-In-Charge of the dock will then inform the supervisor in charge who in turn will notify the customer representative or designee and await instructions.
	• If the product sample is satisfactory, it will be properly tagged by the Person-In-Charge of the shore tank and retained for sixty (60) days in a designated area.
	• Note: A periodic check by the person-in-charge of the shoreside hose/loading arm hookups is mandatory to insure that there is no leakage of the system.
	• The Person-In-Charge must record periodic pipeline pressures for appropriate vessels (or lines), which will indicate any change in rate or trouble in the system.
	• Note: The pumping pressure is not to exceed 100 psi.
	• A qualified Person-In-Charge of the transfer operation on the vessel must be on duty and in direct communication with the shore facility during the entire operation. If the vessel is not in compliance to this procedure, the Person-In-Charge is to notify the supervisor in charge. If the vessel refuses to comply the transfer operation is to be determined.
	• A Facility Person-In-Charge must remain on the dock during the entire transfer operation checking dock valves, pressure gauges, hose connections, ground connections, vessel moorings and other pertinent duties. The Person-In-Charge may go on board the vessel when deemed necessary.
	• In the case of a hose break, leaks or spillage from the vessel or Terminal, the Person-In-Charge must notify the appropriate personnel that transfer operations have to be terminated. After securing the valves and pumps, the Person-In-Charge will notify the Operations Manager who will take the necessary action.
	• In the case of a vessel or Terminal fire, the entire operation shall be immediately terminated and all valves closed. The Operations Manager shall be notified and the necessary action taken.
	• The Person-In-Charge is required to note any unusual occurrences or delays while the vessel is present, under the Section "Remarks" on the Dock Log.
	• The Terminal Operator must gauge the receiving tanks periodically and report the figures to the Person-In-Charge of the dock. If the PIC does not obtain the gauges within a reasonable amount of time, the PIC must stop pumping the specific product(s) until the figures are obtained. The Operations Manager may make exceptions as follows:
	• No open fires shall be permitted on the docks or vessels tied up at the docks.
	• Flame screens must be placed and secured in ullage latches at all times while the transfer operation is in the progress except when tank(s) are being sampled and gauged.

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310
(17) Transfer Procedures
(iii) Completion of Pumping
• No vessel shall be permitted to tie up at Shore Terminals docks without permission.
• All portholes must be screened or closed at all times to prevent cigarette butts, matches, and so forth, from being thrown through the portholes. In addition, all doors and portholes from living quarters facing the Main Dock on ships must be closed.
• The ship's officer shall not cause or allow tow boats or other small boats to come alongside or within hazardous distance while the transfer operation is in progress or the ullage parts are open.
• While a vessel is moored at a dock, it is the duty of the Facility Person-In-Charge to: • Prevent tampering with dock equipment, headers and facilities. • Enforce "No Smoking" rules. • Keep unauthorized personnel and vehicles off dock. • Observe the surrounding waters and shoreline to detect the presence of oil. • Assist with communications between the ship and the Terminal. • Observe the dock facilities to detect any discharges, leakage or other abnormal conditions. • Perform other such duties as may be specified by the supervisory personnel.
• Upon completion of the pumping operations, the terminal personnel must verify the gauge and temperature of the tank.
• Note: The Product Must Be Allowed To Settle For Thirty (30) Minutes Before Gauging And Sampling.
• The Terminal Operator must gauge the shore tank.
• The difference between the shore tank's opening and closing gauges must be compared to the vessel figures. A difference of one-half (1/2) of one (1) percent between the vessel and tank figures is allowable. Check the allowable gain/loss table for the actual amount. If the difference is greater than one-half (1/2) of one (1) percent, notify the supervisor in charge and await further instructions. Under no circumstances is the vessel to leave without proper customer authorization.
• If everything is correct, the hose(s)/loading arms are to be disconnected and the transfer system secured.
(iv) Emergencies
• Emergency contact/notification will be necessary for various emergency situations. These situations may include the following: • Cargo Spill. • Fire/Explosion. • Personnel Injury. • Vessel Breakaways. • Severe Weather Conditions. • Terrorist Activity (bomb threats, etc.).
• Refer to FIGURE 5, which details the name and telephone numbers of the Facility Persons-In-Charge as well as other emergency telephone references.
• **VESSEL BREAKAWAYS**

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310	
(17) Transfer Procedures	
(iv) Emergencies	
	• In the event of a vessel breakaway, the following response actions should be observed:
	• **Initial Procedures:** • Terminate transfer operations and close all transfer valves. • Deploy tug (in the event it is on standby away from the tow) to retrieve the barge(s) and rescue mooring to the dock.
	• **Associated Procedures:** • In the event of oil spill, fire/explosion, or personnel injury initiate the appropriate procedures detailed in this section. • In the event that the standby tug must leave the slip for any reason, cargo loading or unloading operations shall cease immediately, unless a tankerman remains with the barge.
	• **TERRORIST ACTIVITY**
	• In the event of terrorist activity (bomb threat, civil disorder, etc.) the following safeguards should be observed:
	• **Initial Response:** • Terminate transfer operations and close all transfer valves. • Secure the area. • Evaluate Facility evacuation based on the type and seriousness of the incident.
	• **External Notifications:** Make the following External Notifications, or request that they be made immediately (Appendix A should be referenced for all phone numbers): • Fire Department (as necessary). • Police or Sheriff's Department (as necessary).
	• **Internal Notifications:** Make the following Internal Notifications immediately (Appendix A should be referenced for all phone numbers): • Terminal Supervisor. • Regional Manager. NOTE: In the event of the absence or inability to contact one of the above referenced parties, the calling party should assume the responsibility to continue notifications up the management chain.
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.
FIRE	
	• In the event of a fire or explosion during any cargo handling operation, the following firefighting guidelines should be observed:
	• **Initial Response:** • Terminate transfer operations and eliminate the source of the fire (shut down pumps, close block valves, etc.). • IF SAFE, make every effort to mitigate the damage and prevent the fire from spreading by fighting the fire with a dry chemical fire extinguisher (see MSDS). Location of the Facility firefighting equipment is detailed in FIGURE 8 of this Manual.
	• **Fire Alarm Procedures:** • Fire alarm procedures - When an alarm is sounded: • All waterfront transfers should be stopped immediately. • All personnel should proceed with extreme caution and attempt to determine the location of the fire. • In the event of a small fire, personnel in the area should attempt to extinguish or control the fire. • In the event of a large fire or explosion, all personnel should proceed to the pre-arranged muster area and await further instructions.

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310	
(17) Transfer Procedures	
FIRE	
	• **External Notifications:** Make the following External Notifications, or request that they be made immediately (Appendix A should be referenced for all phone numbers): • Fire Department (as necessary). • Police or Sheriff's Department (as necessary). • Other outside resources (as necessary).
	• **Internal Notifications:** Make the following Internal Notifications immediately (FIGURE 5 should be referenced for all phone numbers): • Terminal Management. • Regional Manager. • Marine Emergency Hotline (Marine Group). NOTE: In the event of the absence or inability to contact one of the above referenced parties, the calling party should assume the responsibility to continue notifications up the management chain.
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.
SEVERE WEATHER	
	• In the event of severe weather (severe thunderstorms, high winds, etc.), the following safeguards should be observed:
	• **Initial Response:** • Terminate transfer operations and close all transfer valves. • If vessel remains at dock, ensure adequate mooring. • Secure the area, pump out sump systems, and evacuate as necessary. • Standby for further instructions and for conditions to improve.
	• **Associated Procedures:** • In the event of oil spill, fire/explosion, or personnel injury initiate the procedures detailed herein. • Procedures documented in the Hurricane Procedures Manual should be referenced and implemented.
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.
OIL SPILL	
	• In the event of a spill during any cargo handling operation, the following spill response guidelines should be observed (detailed procedures are found in the Integrated Contingency Plan):
	• **Initial Response:** • Terminate transfer operations and eliminate the source of the spill (shut down pumps, close block valves, etc.). • Eliminate any source of ignition such as kitchen facilities aboard ships and barges. Stop all hot work anywhere along the waterfront. • Drain line/hose into barge, containment system, or other storage media and blank line to stop discharge.
	• **Internal Notifications:** Make the following internal notifications immediately (telephone references are provided in FIGURE 5): • Terminal Management. • Regional Manager. NOTE: In the event of the absence or inability to contact one of the above referenced parties, the calling party should assume the responsibility to continue notifications up the management chain.
	• **External Notifications:** Make the following external notifications, or request that they be made immediately (telephone references are provided in Appendix A): • USCG - National Response Center. • USCG - Marine Safety Office (or appropriate COTP). • State Emergency Response Commission (SERC). • Local Emergency Planning Committee (LEPC). • Fire Department (as necessary). • Police or Sheriff's Department (as necessary). • Oil Spill Response COOP/Contractors (as necessary). • Other outside resources (as necessary).

33 CFR 154.310(a) - (17) Transfer Procedures, Continued

33 CFR 154.310	
(17) Transfer Procedures	
OIL SPILL	
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.
PERSONNEL INJURY	
	• In the event of a personnel injury during transfer operations, the following response actions should be followed:
	• **Initial Response:** • Terminate transfer operations. • If prudent, move injured party to a safe/stable location.
	• **External Notifications:** Make the following External Notifications, or request that they be made immediately (Appendix A should be referenced for all phone numbers): • Emergency Medical Services (as necessary). • Fire Department (as necessary). • Police or Sheriff's Department (as necessary). • Other outside resources (as necessary).
	• **Internal Notifications:** Make the following Internal Notifications immediately (FIGURE 5 should be referenced for all phone numbers): • Terminal Supervisor. • Regional Manager. NOTE: In the event of the absence or inability to contact one of the above referenced parties, the calling party should assume the responsibility to continue notifications up the management chain.
	• Remember, WITHOUT EXCEPTION, Personnel Safety is First Priority.

33 CFR 154.310(a) - (18) Reporting and initial containment

33 CFR 154.310	
(18) Reporting and initial containment	
Reporting Procedures	
	• Contact the terminal manager or senior official at the terminal using any available method to report the situation. If direct radio contact is not possible, use a phone or send a messenger to notify the office. See Notifications in FIGURE 5.
Initial Containment	
	• Terminate transfer operations and eliminate the source of the spill (shut down pumps, close block valves, etc.).
	• Eliminate any source of ignition such as kitchen facilities aboard ships and barges. Stop all hot work anywhere along the waterfront.
	• Drain line/hose into barge, containment system, or other storage media and blank line to stop discharge.

33 CFR 154.310(a) - (19) Applicable Laws and regulations

33 CFR 154.310	
(19) Applicable Laws and regulations	
	• Abrief summary of Federal, State, and Local Laws concerning oil pollution is presented here.
	• It is the policy of the United States that there should be no discharges of oil or hazardous material into or upon the navigable waters, adjoining shorelines, and contiguous zone of the United States. Should such a discharge occur, CITGO might be subject to penalties and fines. The United States Coast Guard must be immediately notified if any such discharge occurs, and every effort must be made to contain and remove any such spill in the marine environment in accordance with the appropriate contingency plan.
	• The Terminal's operations manual has been prepared to facilitate compliance with USCG, State, and local regulations. The procedures in this manual are operational guidelines for the purpose of reducing the risk of oil spills during marine transfer operations.
	• Federal Laws - Clean Water Act; Oil Pollution Act of 1990.
	• Federal Reporting Requirements: Notify National Response Center - 800-424-8802
	• Federal Water Pollution Control Act - 1972
	• The Federal Water Pollution Control Act of 1972 (amended 1977) prohibits the discharge of oil into the waters of the U.S. The Act makes it illegal to discharge oil into or upon the navigable waters of the U.S. which: 1) Violates applicable water quality standards; or 2) Causes a film or sheen upon or discoloration of the surface the surface of the water or adjoining sidelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
	• Penalties: 1) An owner or operator that discharges oil into or upon the waters of the U.S. may be fined up to $5,000.00 per day for each day that the violation occurs. 2) Failure to notify the appropriate agency may result in fines up to $10,000.00 or one year imprisonment or both. 3) Failure to remove any oil for which an owner or operator is responsible for may result in fines up to $5,000.00 for each violation.
	• Liabilities: 1) An owner or operator of an onshore facility from which a removable discharge occurs is liable for cleanup costs up to $8,000,000.00. 2) An owner or operator of a shoreside facility from which a non-removable discharge occurs is liable for cleanup costs up to $500,000.00.
	• Oil Pollution Act of 1990 (OPA90). OPA substantially increased the administrative, civil, and criminal penalties assessable for un-permitted discharges of oil and hazardous substances.
	• Penalties: 1) An owner or operator of a vessel or facility may be subject to a civil penalty of up to $25,000.00 per day of violation or up to $1,000.00 per barrel. If willful misconduct or gross negligence is involved the penalty may be raised to $3,000.00 per barrel. 2) An un-permitted negligent discharge is punishable by a $25,000.00 fine and one-year imprisonment. For "knowing" discharges the fine is $50,000.00 and up to three years imprisonment. For "knowing endangerment of human life" the fine is $250,000.00 for an individual, $1,000,000.00 for an organization and up to 15 years imprisonment.
	• Liabilities: 1) For onshore facilities and deep-water ports - $350,000,000.00. Presidential authority may reduce liability to no lower than $18,000.000.00.
	• Rivers and Harbors Act of 1899 (Refuse Act) This Act prohibits the discharge of any quantity of refuse in navigable waters without respect to damage or injury to the environment and without any exceptions for accidents or acts of God. Violation of this act is a "misdemeanor" for any person or corporation, punishable by a fine not exceeding $2,500 or by imprisonment (in the case of a natural person) for not less than 30 days or more than one year, or both fine and imprisonment.
	• **State of Oregon** State of Oregon Department of Environmental Quality (DEQ) Oregon Administrative Rules (OAR) 340-47-005 through 230; Regulations pertaining to Oil Spills into Public Waters.

33 CFR 154.310(a) - (20) Portable Lighting

33 CFR 154.310
(20) Portable Lighting
• There is no portable lighting used at this Facility.

33 CFR 154.310(a) - (21) Training and qualification program for persons in charge

33 CFR 154.310	
(21) Training and qualification program for persons in charge	
	• Shore Terminals employee training records are maintained on file at the Terminal Manager's office and are available upon request.
A. Work and Study	
	• The Person-In-Charge training of employees is accomplished primarily through On-The-Job Training at various facilities serving similar functions with other trained and qualified employees. In order for a person to be designated as a Terminal Person-In-Charge of an oil transfer operation, he/she must spend a minimum of 48 hours with a qualified employee in hands-on transfer operations.
B. Training	
	• Each PIC must have completed a training and qualification program established by the facility, which provides a full working knowledge of the following: • The hazards of the cargo being transferred. • The rules/regulations detailed in 33 CFR 154 and 156. • The proper operating procedures as described in this Dock Operations Manual. • The vessel cargo transfer systems. • The vessel cargo transfer control systems. • The Facility cargo transfer control system. • Local discharge reporting procedures. • The OPA90 Integrated Contingency Plan (particularly the discharge reporting and response procedures). • Federal, State, and Local rules that apply to the cargo transfer. • The location and operation of all valves used in the cargo transfer operation. • The proper methods of inspecting the Facility and completing a "Declaration of Inspection". • The use of the standard discharge connection. • The location and use of the Emergency Contact/Notification Data provided in FIGURE 5. • Shore Terminals Environmental, Health & Safety Manual and safety/security policies.
	• Additional training is provided for newly established procedures, new equipment, and regulatory updates on an as-needed basis.
C. Certified terming persons in charge	
	• Once completed, and the employee is deemed to be fully proficient in the tasks associated with the position, he/she will be designated as a Facility "Person-In-Charge" in writing. Refer to 33 CFR 154.310(a)(6) for the list of PIC and also FIGURE 12 Additional Information for the PIC Letter.

33 CFR 154.310(a) - (22) Hose Markings

33 CFR 154.310
(22) Hose Markings
• The piping and hoses are stenciled for identification and certification documentation is on file at the Facility office.

33 CFR 154.310(a) - (23) Tank cleaning and stripping operations

33 CFR 154.310
(23) Tank cleaning and stripping operations
• Not applicable.

33 CFR 154.310(b) - Vapor control systems

33 CFR 154.310
(b) Vapor control systems
• Not applicable.
(1) Description of vapor control system
• Not applicable.
(2) Design description of vapor control system
• Not applicable.
(i) Vapor line connection
• Not applicable.
(ii) Startup and shutdown procedures
• Not applicable.
Startup Procedures
• Not applicable.
Shutdown Procedures
• Not applicable.
(iii) Steady-state operating procedures
• Not applicable.
(iv) Provisions for dealing with pyrophoric sulfide
• Not applicable.
(v) Alarms and shutdown devices
• Not applicable.
(vi) Pre-transfer equipment inspection requirements
• Not applicable.

FIGURE 7 - DECLARATION OF INSPECTION

Prepare original and one copy. (Other versions of this form may be used)

from √	to	⇓ Name and, if appropriate, Voyage No, T/C (or owner)	⇓ Started
		Vessel	date
		Vessel	time
		Facility/Terminal and address, or Location of transfer	⇓ Completed
			date
			time

Product(s) and estimated Transfer Rate

* The following list refers to requirements set forth in detail in 33 CFR §156.150 and 46 CFR §35.35-30 printed on reverse. The spaces adjacent to items on the below list are to be "checked off" to indicate that the detailed requirements, which are under the control of the facility and/or the vessel have been met. This does not limit the officer in charge from exercising prudent action in special circumstances. Compliance with these regulations is to be certified by signature by each "Person in Charge" prior to commencing transfer, and at the beginning of each ensuing watch, for the duration of the transfer.

Item		Facility	Term./Vessel	Item		Facility	Term./Vessel
1.	Communications system/language fluency.	§156.120(m) (p)		12.	Scuppers or drains.	§156.120 (k)	
2.	Warning signs and red warning signals.	§35.35-30		13.	Emergency shutdown.	" (n)	
3.	Vessels moorings.	§156.120(a)		14.	Repair work authorization.	§35.35-30	
4.	Transfer system Alignment	" (d)		15.	Boiler and galley fires safety.	"	
5.	" Unused components.	" (e)		16.	Fires or open flames.	"	
6.	" Fixed piping.	" (f)		17.	Lighting (sunset to sunrise)	§156.120 (t)	
7.	Overboard discharges/ sea suction valves.	" (g)		18.	Safe smoking spaces.	§35.35-30	
8.	Hoses or loading arms condition.	§156.120 (h) & §156.170		19.	Spill and emergency shutdown procedures.	§156.120 (q)	
9.	Hoses: length and support.	§156.120 (b) (c)		20.	Sufficient personnel.	" (o) (s)	
10.	Connections, and bonding cable.	§156.130		21.	Transfer conference.	" (q)	
11.	Discharge containment system.	§156.120 (j) (l)		22.	Agreement to begin transfer	" (r)	

I do certify that I have personally inspected the vessel(s) with reference to the requirements set forth in §35.35.30 and 156.150, and opposite those, which I have control, I have indicated that the regulations have been complied with.

• I do certify that I have personally inspected the Facility (or vessel) with reference to the requirements set forth in 156.150, and opposite those, which I have control, I have indicated that the regulations have been complied with.

Person in Charge VESSEL ⇓		Person in Charge FACILITY ⇓	
signature and title	date and time	signature and title	date and time

This record must be readily available for inspection by USCG Enforcement Personnel §155.820 and 156.150 (e) (f)

Each Party MUST Keep a complete, signed copy for at least 1 month after transfer is completed!

FIGURE 8 - EMERGENCY RESPONSE EQUIPMENT

BOOM						
TYPE/MODEL/YEAR	**QUANTITY**	**SIZE**	**CONTAINMENT AREA (sq ft)**	**STORAGE LOCATION**		
Terminal personnel is available and trained for boom deployment. Limited terminal booms will be deployed within 1 hour following discovery.						
Containment Boom/Skirt Type	3,000'	18"		South Dock Float		
Containment Boom/Skirt Type	1000'	18		Warehouse by North Dock		
SORBENTS						
TYPE/YEAR	**QUANTITY**	**ABSORPTION CAPACITY (gal)**	**STORAGE LOCATION**	**OPERATIONAL STATUS**		
Spill pads/diapers	10 bags		Warehouse			
Absorbent material/boom	160 feet		Warehouse			
HAND TOOLS						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
Shovels						
COMMUNICATIONS EQUIPMENT						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION/NUMBER**	**OPERATIONAL STATUS**			
Hand held radios	6					
Radio base unit	1					
Marine channel radio	1					
Satellite phone	1					

FIGURE 8 - EMERGENCY RESPONSE EQUIPMENT, CONTINUED

FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
20 lb portable fire extinguishers						
150 lb C/D w heeled fire extinguisher						
20 lb A/B/C fire extinguisher						
Scott air packs						
OTHER						
TYPE/YEAR	**QUANTITY**	**STORAGE LOCATION**	**OPERATIONAL STATUS**			
Work Boat - 22 ft Response Boat / Built 2006	1		Operational			

United States Coast Guard

Certificate Of Adequacy
for
Reception Facility

This certifies that: NuStar Portland Terminal has facilities adequate to receive MARPOL I, MARPOL V

From oceangoing ships, as required by the International Convention for the Prevention of Pollution from Ships, 1973, As modified by the protocol of 1978 (MARPOL 73/78), The Act to Prevent Pollution from Ships, 33 USC 1901-1912 and associated U.S. Regulations in 33 CFR 158.

This certificate is issued pursuant to an application dated **05MAR2020** and an inspection dated **06MAR2020**, copies of which are attached, and part of this certificate. Each terminal listed in the application shall maintain a copy of this certificate available for inspection by Coast Guard personnel and the master, operator, agent, or owner of any ship using or intending to use this terminal.

Terminals and ports required to have an operations manual for oil transfer described in 33 CFR 154.300 shall attach a copy of this certificate thereto.

The terminal/port person in charge identified in the attached application shall notify the U.S. Coast Guard Captain of the Port (COTP) in writing after any of the reception facility information or terminal/port information identified in 33 CFR 158.165 changes.

The terminal/port owner, operator, or person in charge is liable for violations of the provisions of 33 CFR 158 and may be subject to the maximum penalty under 33 USC 1908, as adjusted for inflation and found at 33 CFR 27.3.

The terminal/port owner, operator, or person in charge shall ensure that the reception facility holds each state, local, and federal permit and license required by environmental laws and regulations concerning garbage, residues and mixtures containing oil or noxious liquid substances. This certificate certifies compliance with applicable sections of 33 CFR 158, but does not certify compliance with any other law or regulation.

This certificate is valid for a period of 5 years from the date issuance; or until suspended or revoked; or until 30 days after the operator cited on the certificate changes; at which time it shall be promptly returned to the U.S. Coast Guard COTP.

This Certificate Expires:

05MAR2025

5 years from date of issuance

Signature of COTP — *Date*

A. H. MOORE, Jr., CAPTAIN, USCG, BY DIRECTION

Typed Name of COTP — *Date*

Sector Columbia River

COTP Zone — *Phone*

The following waivers to this certificate are granted. The waivers shall be attached to and are part of this certificate.

Waiver Description (brief description)	Expire Date (if applicable)

Certificate of Adequacy Inspection Endorsement

(to be endorsed after each reception facility inspection)

Date	Inspector's Name (typed or printed)	Inspector's Signature

FIGURE 9 - CERTIFICATES OF ADEQUACY

Click to view/print Certificate of Adequacy Exp on 03-05-2025

FIGURE 10 - LETTERS OF ALTERNATE COMPLIANCE AND EXEMPTIONS

No Files Uploaded

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name:	Gasoline
Product Description:	V4024a-GASOLINE BLENDSTOCK-Gasoline
Trade name:	GASOLINE BLENDSTOCK
Product Code:	GASBLEND
CAS No.:	86290-81-5
EC No.:	289-220-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use(s):	Fuel for engines. Blend component.

1.3 Details of the supplier of the safety data sheet

Company Identification:	Vitol SA Boulevard du Pont d'Arve 28 P.O. Box 384 1211 Geneva 4 Switzerland
Telephone:	+31 10 498 7200
Fax:	+31 10 452 9545
E-Mail (competent person):	xreach@vitol.com

1.4 Emergency telephone number

Emergency Phone No. (24 h):	+44 (0) 1235 239 670 (24 hours, 7 days)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation (EC) No. 1272/2008 (CLP)

Flam. Liq. 1; H224
Asp. Tox. 1; H304
Skin Irrit. 2; H315
STOT SE 3; H336
Muta. 1B; H340
Carc. 1B; H350
Repr. 2; H361fd
Aquatic Chronic 2; H411

According to Directive 67/548/EEC & Directive 1999/45/EC

F+; R12
Carc. Cat. 2; R45
Muta. Cat. 2; R46
Repr. Cat. 3; R63 – R63
Xi; R38
Xn; R65
N; R51/53
R67

SAFETY DATA SHEET

2.2.1 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):

Signal word(s): Danger

Hazard statement(s):

H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P201: Obtain special instructions before use.
P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container to: Disposal should be in accordance with local, state or national legislation.

2.2.2 Label elements

According to Directive 67/548/EEC & Directive 1999/45/EC

Hazard pictogram(s):

Hazard Symbol: Extremely flammable. Toxic. Dangerous for the environment.

Risk Phrases:

R12: Extremely flammable.
R38: Irritating to skin.
R45: May cause cancer.
R46: May cause heritable genetic damage.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

Safety Phrases:

S2: Keep out of the reach of children.
S23: Do not breathe fumes/vapour.
S24: Avoid contact with skin.
S29: Do not empty into drains.
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51: Use only in well-ventilated areas.
S53: Avoid exposure - obtain special instructions before use.

SAFETY DATA SHEET

S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets.
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

2.3 Other hazards

Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. May cause irritation to eyes and air passages.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

EC Classification No. 1272/2008

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	Hazard symbol(s) and hazard statement(s)
Gasoline	100	86290-81-5	289-220-8	Flam. Liq. 1; H224 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Muta. 1B; H340 Carc. 1B; H350 Repr. 2; H361fd Aquatic Chronic 2; H411

EC Classification No. 67/548/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	Risk Phrases and Safety Phrases
Gasoline	100	86290-81-5	289-220-8	F+; R12 Carc. Cat. 2; R45 Muta. Cat. 2; R46 Repr. Cat. 3; R63 – R63 Xi; R38 Xn; R65 N; R51/53 R67

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove patient from exposure, keep warm and at rest. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If symptoms persist, obtain medical attention. Contaminated clothing should be thoroughly cleaned.

Eye Contact: If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.

Ingestion: Obtain immediate medical attention. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Aspiration hazard. Irritating to skin. May cause irritation to eyes and air passages. May cause drowsiness or dizziness.

SAFETY DATA SHEET

4.3	**Indication of the immediate medical attention and special treatment needed**	If breathing is laboured, oxygen should be administered by qualified personnel. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. FIRE-FIGHTING MEASURES

5.1	**Extinguishing media**	
	Suitable Extinguishing Media:	Foam, CO2 or dry powder. For large fire use: Water.
	Unsuitable Extinguishing Media:	Do not use water jet.
5.2	**Special hazards arising from the substance or mixture**	Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide and various hydrocarbons.
5.3	**Advice for fire-fighters**	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep fire exposed containers cool by spraying with water. Flash Point (°C): < 0 Flammable Limits (Lower) (%v/v): 1 Flammable Limits (Upper) (%v/v): 10 Auto Ignition Temperature (°C): > 250

6. ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Ensure adequate ventilation. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8). Contaminated clothing should be thoroughly cleaned.
6.2	**Environmental precautions**	Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
6.3	**Methods and material for containment and cleaning up**	Adsorb spillages onto sand, earth or any suitable adsorbent material. Sweep up carefully with non-sparking tools. Transfer to a container for disposal. Wash spill area with soapy water. Contaminated adsorbent must be removed in sealed, plastic lined drums and disposed of via an authorised waste disposal contractor.
6.4	**Reference to other sections**	Personal Protection: See Section: 8.
	Other advice	Caution - spillages may be slippery.

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7. HANDLING AND STORAGE

7.1	**Precautions for safe handling**	Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8). Do not eat, drink or smoke at the work place. Wash hands and exposed skin after use. Contaminated clothing should be thoroughly cleaned.
7.2	**Conditions for safe storage, including any incompatibilities**	Keep away from heat and sources of ignition. Keep from direct sunlight. Keep away from frost. Keep only in the original container in a cool, well-ventilated place. Keep/store away from: Oxidising agents.
7.3	**Specific end use(s)**	Industrial use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	**Control parameters**	No Occupational Exposure Limit assigned.
8.2	**Exposure controls**	
8.2.1	**Appropriate engineering controls**	Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded.
8.2.2	**Personal Protection**	
	Eye/face protection	Goggles giving complete protection to eyes. (EN 166)
	Skin protection	Protective gloves. (EN 374)
	Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. (BS EN 14387:2004+A1)
	Other:	Apron or other light protective clothing, boots and plastic or rubber gloves.
8.2.3	**Environmental Exposure Controls**	Avoid release to the environment.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid.
Colour:	Pale yellow.
Odour:	Hydrocarbon.
Boiling Point (°C):	< 35
Flash Point (°C):	<0
Flammable Limits (Lower) (%v/v):	1
Flammable Limits (Upper) (%v/v):	10
Vapour Pressure (mm Hg):	200 (@ 20°C)
Specific Gravity:	0.70-0.80
Solubility (Water):	Negligible.
Partition Coefficient: (n-Octanol/water)	1.0-8.0
Auto Ignition Temperature (°C):	>250
Viscosity:	1 mm^2/s (@ 20°C)
Explosive Properties:	Vapour may create explosive atmosphere.
Oxidising Properties:	Not oxidising.
Vapour Density (Air=1):	>2

9.2 Other information

Conductivity**:** 15-35

10. STABILITY AND REACTIVITY

10.1	**Reactivity**	Reacts with - Strong oxidising agents.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	No information available.
10.4	**Conditions to avoid**	Keep away from heat, sources of ignition and direct sunlight.
10.5	**Incompatible materials**	Oxidising agents.
10.6	**Hazardous Decomposition Product(s)**	May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide and various hydrocarbons.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Ingestion:	LD_{50} (oral/rat): >5000 mg/kg (ARCO, 1986b)
Inhalation:	LC_{50}(inhalation/rat):>5.2 mg/l/4 h (ARCO, 1992)
Skin Contact:	LD_{50} (dermal/rabbit): >2000 mg/kg (ARCO, 1986a)
Eye Contact:	No information available.

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/irritation:	May cause eye irritation.
Respiratory or skin sensitization:	Negative.
Mutagenicity:	May cause heritable genetic damage. Muta. 2 (Category 2).
Carcinogenicity:	May cause cancer. Carc. 1B (Category 2).
Reproductive toxicity:	Suspected of damaging fertility. Suspected of damaging the unborn child.
STOT-single exposure:	Vapours may cause drowsiness and dizziness.
STOT-repeated exposure:	Negative.
Aspiration hazard:	Risk of aspiration. Aspiration of liquid may cause pulmonary oedema.
Other information:	No information available.

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12. ECOLOGICAL INFORMATION

12.1	**Toxicity**	LC_{50} : (Rainbow trout): 1-10 mg/l/96h EC_{50} (Daphnia magna): 1-10 mg/l/48h WGK: Not established.
12.2	**Persistence and degradability**	Inherently biodegradable.
12.3	**Bioaccumulative potential**	The product has potential for bioaccumulation. Log K_{ow} ≥3.
12.4	**Mobility in soil**	The product has low mobility in soil.
12.5	**Results of PBT and vPvB assessment**	half-life: 1.2-2.7 days
12.6	**Other adverse effects**	No information available.

13. DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Do not empty into drains; dispose of this material and its container in a safe way. To be disposed of as hazardous waste. Disposal should be in accordance with local, state or national legislation.

14. TRANSPORT INFORMATION

14.1	**UN number**	1268
14.2	**Proper Shipping Name**	PETROLEUM DISTILLATE, N.O.S.
14.3	**Transport hazard class(es)**	3
14.4	**Packing Group**	I
14.5	**Environmental hazards**	ADR/RID/ADN/IATA: Environmentally hazardous IMDG: Marine Pollutant
14.6	**Special precautions for user**	Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces.
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15. REGULATORY INFORMATION

According to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):

Signal word(s): Danger

Hazard statement(s):

H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P201: Obtain special instructions before use.
P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON

CENTRE or doctor/physician.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container to: Disposal should be in accordance with local, state or national legislation.

According to Directive 67/548/EEC & Directive 1999/45/EC

Hazard pictogram(s):	
Hazard Symbol:	Extremely flammable. Toxic. Dangerous for the environment.
Risk Phrases:	R12: Extremely flammable. R38: Irritating to skin. R45: May cause cancer. R46: May cause heritable genetic damage. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R62: Possible risk of impaired fertility. R63: Possible risk of harm to the unborn child. R65: Harmful: may cause lung damage if swallowed. R67: Vapours may cause drowsiness and dizziness.
Safety Phrases:	S2: Keep out of the reach of children. S23: Do not breathe fumes/vapour. S24: Avoid contact with skin. S29: Do not empty into drains. S36/37: Wear suitable protective clothing and gloves. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S51: Use only in well-ventilated areas. S53: Avoid exposure - obtain special instructions before use. S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets. S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

Full text of Hazard statements and Risk phrases for pure substances listed in section 3.

Hazard Symbol:	H224: Extremely flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H340: May cause genetic defects. H350: May cause cancer. H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. H411: Toxic to aquatic life with long lasting effects.
Risk Phrases:	R12: Extremely flammable. R38: Irritating to skin. R45: May cause cancer. R46: May cause heritable genetic damage. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

The following sections contain revisions or new statements: 1-16.

Abbreviations:
CAS = Chemical Abstracts Service;
CNS = Central Nervous System;
EINECS = European Inventory of Existing Commercial Chemical Substances;
EC50 = Effective Concentration 50%;
IARC = International Agency for Research on Cancer;
IC50 = Inhibitory Concentration 50%;
LC50 = Lethal Concentration 50%;
LD50 = Lethal Dose 50%;
LTEL = Long Term Exposure Limit;
STEL = Short Term Exposure Limit;
TWA = Time Weighted Average;

References:
Concawe product dossier " Hazard classification and labelling of petroleum substances in the European Economic Area 2010".Brussels; December 2010

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ARCO (1986a) Acute dermal toxicity study in rabbits administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60553. Los Angeles CA: ARCO.

ARCO (1986b) Acute oral toxicity study in rats administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60598. Los Angeles CA: ARCO

ARCO (1986c) Dermal sensitization study in guinea pigs administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60613. Los Angeles CA: ARCO

ARCO (1986d) Primary eye irritation study in rabbits administered test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60583. Los Angeles CA: ARCO

ARCO (1986e) Twenty-eight (28) day dermal toxicity study in rats on test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60761. Los Angeles CA: ARCO

ARCO (1992) Acute inhalation toxicity study (limit test) in rats administered test article F-101. UBTL Study No. 65798. Los Angeles CA: ARCO

CONCAWE (1996) Acute aquatic toxicity of gasolines. Report No. 96/57. Brussels: CONCAWE Davis, A. et al (1960) The effects on human volunteers of exposure to air containing gasoline vapor. Arch Environ Health 1, 548-554

Drinker, P. et al (1943) The threshold toxicity of gasoline vapor. J Ind Hyg Toxicol 25, 6, 225-232

EBSI (1995a) Alga, growth inhibition test. MRD-95-048 gasoline W94/813, blend. Study performed for CONCAWE. EBSI Study No. 104867. East Millstone NJ: Exxon Biomedical Sciences Inc.

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EBSI (1995b) Daphnia, acute toxicity test. MRD-95-044 gasoline W94/809, medium naphtha. Study performed for CONCAWE. EBSI Study No. 104442. East Millstone NJ: Exxon BiomedicalSciences Inc.

EBSI (1995c) Fish, acute toxicity test - rainbow trout. MRD-95-045 gasoline W94/810, isomerate. Study performed for CONCAWE. EBSI Study No. 104558. East Millstone NJ: Exxon Biomedical Sciences Inc.

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McKee, R.H. et al (2000) Assessment in rats of the reproductive toxicity of gasoline from a gasoline vapor recovery unit. Reprod Toxicol 14, 4, 337-353

Petroleum Product Stewardship Council (1995) Static-renewal 96-hour acute toxicity study of the water accommodated fraction (WAF) of whole light alkylate product to fathead minnow. Study conducted by Stonybrook Laboratories Inc. Study No. 65908. Washington DC: Petroleum Product Stewardship Council

Roberts, L. et al (2001) Developmental toxicity evaluation of unleaded gasoline vapor in the rat. Reprod Toxicol 15, 5, 487-494

Short, B.G. et al (1989) Promoting effects of unleaded gasoline and 2,2,4-trimethylpentane on the development of atypical cell foci and renal tubular cell tumors in rats exposed to N-ethyl-Nhydroxy-ethylnitrosamine. Cancer Research 49, 22, 6369-6378

Springborn Laboratories (1999) Light alkylate naphtha - full life cycle toxicity test with water fleas, Daphnia magna, under static-renewal conditions following OECD Guideline 211. Study No. 13687.0598.6105.130. Wareham MA: Springborn Laboratories Inc.

Disclaimer:

The information and recommendations contained herein are based upon data believed to be up-to-date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information and recommendations contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by (incorrect) use, handling, purchase, resale, or exposure to our product. Customers and users of our product must comply with all applicable health and safety laws, regulations, and orders. In particular, they are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures in accordance with the national implementation legislation of EU Directives 89/391 and 98/24.

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name:	Gasoline
Product Description:	V4062a-UNLEADED REGULAR-Gasoline
Trade name:	UNLEADED REGULAR
Product Code:	UNL-REG
CAS No.:	86290-81-5
EC No.:	289-220-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use(s):	Fuel for engines. Blend component.

1.3 Details of the supplier of the safety data sheet

Company Identification:	Vitol SA Boulevard du Pont d'Arve 28 P.O. Box 384 1211 Geneva 4 Switzerland
Telephone:	+31 10 498 7200
Fax:	+31 10 452 9545
E-Mail (competent person):	xreach@vitol.com

1.4 Emergency telephone number

Emergency Phone No. (24 h):	+44 (0) 1235 239 670 (24 hours, 7 days)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation (EC) No. 1272/2008 (CLP)

Flam. Liq. 1; H224
Asp. Tox. 1; H304
Skin Irrit. 2; H315
STOT SE 3; H336
Muta. 1B; H340
Carc. 1B; H350
Repr. 2; H361fd
Aquatic Chronic 2; H411

According to Directive 67/548/EEC & Directive 1999/45/EC

F+; R12
Carc. Cat. 2; R45
Muta. Cat. 2; R46
Repr. Cat. 3; R63 – R63
Xi; R38
Xn; R65
N; R51/53
R67

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2.2.1 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):

Signal word(s): Danger

Hazard statement(s):

H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P201: Obtain special instructions before use.
P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container to: Disposal should be in accordance with local, state or national legislation.

2.2.2 Label elements

According to Directive 67/548/EEC & Directive 1999/45/EC

Hazard pictogram(s):

Hazard Symbol: Extremely flammable. Toxic. Dangerous for the environment.

Risk Phrases:

R12: Extremely flammable.
R38: Irritating to skin.
R45: May cause cancer.
R46: May cause heritable genetic damage.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

Safety Phrases:

S2: Keep out of the reach of children.
S23: Do not breathe fumes/vapour.
S24: Avoid contact with skin.
S29: Do not empty into drains.
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51: Use only in well-ventilated areas.
S53: Avoid exposure - obtain special instructions before use.

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S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets.
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

2.3 Other hazards

Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. May cause irritation to eyes and air passages.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

EC Classification No. 1272/2008

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	Hazard symbol(s) and hazard statement(s)
Gasoline	100	86290-81-5	289-220-8	Flam. Liq. 1; H224 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Muta. 1B; H340 Carc. 1B; H350 Repr. 2; H361fd Aquatic Chronic 2; H411

EC Classification No. 67/548/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	Risk Phrases and Safety Phrases
Gasoline	100	86290-81-5	289-220-8	F+; R12 Carc. Cat. 2; R45 Muta. Cat. 2; R46 Repr. Cat. 3; R63 – R63 Xi; R38 Xn; R65 N; R51/53 R67

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove patient from exposure, keep warm and at rest. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If symptoms persist, obtain medical attention. Contaminated clothing should be thoroughly cleaned.

Eye Contact: If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If symptoms persist, obtain medical attention.

Ingestion: Obtain immediate medical attention. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Aspiration hazard. Irritating to skin. May cause irritation to eyes and air passages. May cause drowsiness or dizziness.

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4.3	**Indication of the immediate medical attention and special treatment needed**	If breathing is laboured, oxygen should be administered by qualified personnel. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. FIRE-FIGHTING MEASURES

5.1	**Extinguishing media**	
	Suitable Extinguishing Media:	Foam, CO2 or dry powder. For large fire use: Water.
	Unsuitable Extinguishing Media:	Do not use water jet.
5.2	**Special hazards arising from the substance or mixture**	Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide and various hydrocarbons.
5.3	**Advice for fire-fighters**	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep fire exposed containers cool by spraying with water. Flash Point (°C): < 0 Flammable Limits (Lower) (%v/v): 1 Flammable Limits (Upper) (%v/v): 10 Auto Ignition Temperature (°C): > 250

6. ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Ensure adequate ventilation. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8). Contaminated clothing should be thoroughly cleaned.
6.2	**Environmental precautions**	Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
6.3	**Methods and material for containment and cleaning up**	Adsorb spillages onto sand, earth or any suitable adsorbent material. Sweep up carefully with non-sparking tools. Transfer to a container for disposal. Wash spill area with soapy water. Contaminated adsorbent must be removed in sealed, plastic lined drums and disposed of via an authorised waste disposal contractor.
6.4	**Reference to other sections**	Personal Protection: See Section: 8.
	Other advice	Caution - spillages may be slippery.

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7. HANDLING AND STORAGE

7.1	**Precautions for safe handling**	Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8). Do not eat, drink or smoke at the work place. Wash hands and exposed skin after use. Contaminated clothing should be thoroughly cleaned.
7.2	**Conditions for safe storage, including any incompatibilities**	Keep away from heat and sources of ignition. Keep from direct sunlight. Keep away from frost. Keep only in the original container in a cool, well-ventilated place. Keep/store away from: Oxidising agents.
7.3	**Specific end use(s)**	Industrial use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	**Control parameters**	No Occupational Exposure Limit assigned.
8.2	**Exposure controls**	
8.2.1	**Appropriate engineering controls**	Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded.
8.2.2	**Personal Protection**	
	Eye/face protection	Goggles giving complete protection to eyes. (EN 166)
	Skin protection	Protective gloves. (EN 374)
	Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. (BS EN 14387:2004+A1)
	Other:	Apron or other light protective clothing, boots and plastic or rubber gloves.
8.2.3	**Environmental Exposure Controls**	Avoid release to the environment.

SAFETY DATA SHEET

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid.
Colour:	Pale yellow.
Odour:	Hydrocarbon.
Boiling Point (°C):	< 35
Flash Point (°C):	<0
Flammable Limits (Lower) (%v/v):	1
Flammable Limits (Upper) (%v/v):	10
Vapour Pressure (mm Hg):	200 (@ 20°C)
Specific Gravity:	0.70-0.80
Solubility (Water):	Negligible.
Partition Coefficient: (n-Octanol/water)	1.0-8.0
Auto Ignition Temperature (°C):	>250
Viscosity:	1 mm^2/s (@ 20°C)
Explosive Properties:	Vapour may create explosive atmosphere.
Oxidising Properties:	Not oxidising.
Vapour Density (Air=1):	>2

9.2 Other information

Conductivity**:** 15-35

10. STABILITY AND REACTIVITY

10.1	**Reactivity**	Reacts with - Strong oxidising agents.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	No information available.
10.4	**Conditions to avoid**	Keep away from heat, sources of ignition and direct sunlight.
10.5	**Incompatible materials**	Oxidising agents.
10.6	**Hazardous Decomposition Product(s)**	May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide and various hydrocarbons.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Ingestion:	LD_{50} (oral/rat): >5000 mg/kg (ARCO, 1986b)
Inhalation:	LC_{50}(inhalation/rat):>5.2 mg/l/4 h (ARCO, 1992)
Skin Contact:	LD_{50} (dermal/rabbit): >2000 mg/kg (ARCO, 1986a)
Eye Contact:	No information available.

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/irritation:	May cause eye irritation.
Respiratory or skin sensitization:	Negative.
Mutagenicity:	May cause heritable genetic damage. Muta. 2 (Category 2).
Carcinogenicity:	May cause cancer. Carc. 1B (Category 2).
Reproductive toxicity:	Suspected of damaging fertility. Suspected of damaging the unborn child.
STOT-single exposure:	Vapours may cause drowsiness and dizziness.
STOT-repeated exposure:	Negative.
Aspiration hazard:	Risk of aspiration. Aspiration of liquid may cause pulmonary oedema.
Other information:	No information available.

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12. ECOLOGICAL INFORMATION

12.1	**Toxicity**	LC_{50} : (Rainbow trout): 1-10 mg/l/96h EC_{50} (Daphnia magna): 1-10 mg/l/48h WGK: Not established.
12.2	**Persistence and degradability**	Inherently biodegradable.
12.3	**Bioaccumulative potential**	The product has potential for bioaccumulation. Log K_{ow} ≥3.
12.4	**Mobility in soil**	The product has low mobility in soil.
12.5	**Results of PBT and vPvB assessment**	half-life: 1.2-2.7 days
12.6	**Other adverse effects**	No information available.

13. DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Do not empty into drains; dispose of this material and its container in a safe way. To be disposed of as hazardous waste. Disposal should be in accordance with local, state or national legislation.

14. TRANSPORT INFORMATION

14.1	**UN number**	1268
14.2	**Proper Shipping Name**	PETROLEUM DISTILLATE, N.O.S.
14.3	**Transport hazard class(es)**	3
14.4	**Packing Group**	I
14.5	**Environmental hazards**	ADR/RID/ADN/IATA: Environmentally hazardous IMDG: Marine Pollutant
14.6	**Special precautions for user**	Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces.
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15. REGULATORY INFORMATION

According to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):

Signal word(s): Danger

Hazard statement(s):

H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P201: Obtain special instructions before use.
P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON

CENTRE or doctor/physician.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container to: Disposal should be in accordance with local, state or national legislation.

According to Directive 67/548/EEC & Directive 1999/45/EC

Hazard pictogram(s):

Hazard Symbol: Extremely flammable. Toxic. Dangerous for the environment.

Risk Phrases:
R12: Extremely flammable.
R38: Irritating to skin.
R45: May cause cancer.
R46: May cause heritable genetic damage.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

Safety Phrases:
S2: Keep out of the reach of children.
S23: Do not breathe fumes/vapour.
S24: Avoid contact with skin.
S29: Do not empty into drains.
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51: Use only in well-ventilated areas.
S53: Avoid exposure - obtain special instructions before use.
S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets.
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

Full text of Hazard statements and Risk phrases for pure substances listed in section 3.

Hazard Symbol:
H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
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Risk Phrases:
R12: Extremely flammable.
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SAFETY DATA SHEET

R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

The following sections contain revisions or new statements: 1-16.

Abbreviations:
CAS = Chemical Abstracts Service;
CNS = Central Nervous System;
EINECS = European Inventory of Existing Commercial Chemical Substances;
EC50 = Effective Concentration 50%;
IARC = International Agency for Research on Cancer;
IC50 = Inhibitory Concentration 50%;
LC50 = Lethal Concentration 50%;
LD50 = Lethal Dose 50%;
LTEL = Long Term Exposure Limit;
STEL = Short Term Exposure Limit;
TWA = Time Weighted Average;

References:
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API (1995) Primary skin irritation study in rabbits of API 91-01 and PS-6. Unleaded test gasolines. Study conducted by Hill Top Biolabs Inc. API Toxicology Report No. 409. Washington DC: American Petroleum Institute.

API (2005) Baseline gasoline vapor condensate: a 13-week whole-body inhalation toxicity study in rats with neurotoxicity assessments and 4-week in vivo genotoxicity and immunotoxicity assessments. Study conducted by Huntingdon Life Sciences. Study No. 00-6125. Washington DC: American Petroleum Institute.

ARCO (1986a) Acute dermal toxicity study in rabbits administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60553. Los Angeles CA: ARCO.

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ARCO (1986c) Dermal sensitization study in guinea pigs administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60613. Los Angeles CA: ARCO

ARCO (1986d) Primary eye irritation study in rabbits administered test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60583. Los Angeles CA: ARCO

ARCO (1986e) Twenty-eight (28) day dermal toxicity study in rats on test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60761. Los Angeles CA: ARCO

ARCO (1992) Acute inhalation toxicity study (limit test) in rats administered test article F-101. UBTL Study No. 65798. Los Angeles CA: ARCO

CONCAWE (1996) Acute aquatic toxicity of gasolines. Report No. 96/57. Brussels: CONCAWE Davis, A. et al (1960) The effects on human volunteers of exposure to air containing gasoline vapor. Arch Environ Health 1, 548-554

Drinker, P. et al (1943) The threshold toxicity of gasoline vapor. J Ind Hyg Toxicol 25, 6, 225-232

EBSI (1995a) Alga, growth inhibition test. MRD-95-048 gasoline W94/813, blend. Study performed for CONCAWE. EBSI Study No. 104867. East Millstone NJ: Exxon Biomedical Sciences Inc.

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EBSI (1995b) Daphnia, acute toxicity test. MRD-95-044 gasoline W94/809, medium naphtha. Study performed for CONCAWE. EBSI Study No. 104442. East Millstone NJ: Exxon BiomedicalSciences Inc.

EBSI (1995c) Fish, acute toxicity test - rainbow trout. MRD-95-045 gasoline W94/810, isomerate. Study performed for CONCAWE. EBSI Study No. 104558. East Millstone NJ: Exxon Biomedical Sciences Inc.

Halder, C.A. et al (1985) Hydrocarbon nephropathy in male rats: identification of the nephrotoxic components of unleaded gasoline. Toxicol Ind Health 1, 3, 67-87

McKee, R.H. et al (2000) Assessment in rats of the reproductive toxicity of gasoline from a gasoline vapor recovery unit. Reprod Toxicol 14, 4, 337-353

Petroleum Product Stewardship Council (1995) Static-renewal 96-hour acute toxicity study of the water accommodated fraction (WAF) of whole light alkylate product to fathead minnow. Study conducted by Stonybrook Laboratories Inc. Study No. 65908. Washington DC: Petroleum Product Stewardship Council

Roberts, L. et al (2001) Developmental toxicity evaluation of unleaded gasoline vapor in the rat. Reprod Toxicol 15, 5, 487-494

Short, B.G. et al (1989) Promoting effects of unleaded gasoline and 2,2,4-trimethylpentane on the development of atypical cell foci and renal tubular cell tumors in rats exposed to N-ethyl-Nhydroxy-ethylnitrosamine. Cancer Research 49, 22, 6369-6378

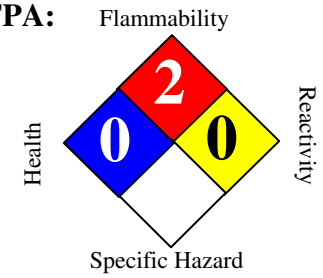
Springborn Laboratories (1999) Light alkylate naphtha - full life cycle toxicity test with water fleas, Daphnia magna, under static-renewal conditions following OECD Guideline 211. Study No. 13687.0598.6105.130. Wareham MA: Springborn Laboratories Inc.

Disclaimer:

The information and recommendations contained herein are based upon data believed to be up-to-date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information and recommendations contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by (incorrect) use, handling, purchase, resale, or exposure to our product. Customers and users of our product must comply with all applicable health and safety laws, regulations, and orders. In particular, they are under an obligation to carry out a risk assessment for the particular work places and to take adequate risk management measures in accordance with the national implementation legislation of EU Directives 89/391 and 98/24.

Material Safety Data Sheet
Diesel Fuel - LM

NFPA:



TESORO

HMIS III:

HEALTH	1
FLAMMABILITY	2
PHYSICAL	0

0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Diesel Fuel - LM		
Synonyms	:	Diesel Fuel - Locomotive and Marine, MGO, DMA, 888100005480		
MSDS Number	:	888100005480	**Version**	: 2.21
Product Use Description	:	Fuel		
Company	:	For: Tesoro Refining & Marketing Co. 19100 Ridgewood Parkway, San Antonio, TX 78259		
Tesoro Call Center	:	(877) 783-7676	**Chemtrec (Emergency Contact)**	: (800) 424-9300

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Regulatory status : This material is considered hazardous by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

Signal Word : WARNING

Hazard Summary : Combustible Liquid

Toxic

Potential Health Effects

Inhalation : Vapors or mists from this material can irritate the nose, throat, and lungs, and can cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure.

Eyes : Eye irritation may result from contact with liquid, mists, and/or vapors.

Skin : Skin irritation leading to dermatitis may occur upon prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed. Long-term, repeated skin contact may cause skin cancer.

Ingestion : Harmful or fatal if swallowed. Do NOT induce vomiting. This material can irritate the mouth, throat, stomach, and cause nausea, vomiting, diarrhea and restlessness. Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death.

Target Organs : Kidney, Liver, Central nervous system, Eyes, Skin

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6	100%
Naphthalene	91-20-3	1 - 5%
Xylene	1330-20-7	1 - 5%
Nonane	111-84-2	0.75 - 1%
1,2,4-Trimethylbenzene	95-63-6	0.75 - 1%
Sulfur	7704-34-9	500 ppm Maximum

SECTION 4. FIRST AID MEASURES

Inhalation : Move to fresh air. Give oxygen. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention immediately.

Skin contact : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, seek medical attention.

Eye contact : Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention.

Ingestion : Do NOT induce vomiting. Ingestion may result in nausea, vomiting, diarrhea and restlessness. Aspiration may cause pulmonary edema and pneumonitis. Seek medical attention immediately.

Notes to physician : Symptoms: Dizziness, Discomfort, Headache, Nausea, Disorder, Vomiting, Lung edema, Aspiration may cause pulmonary edema and pneumonitis. Liver disorders, Kidney disorders.

SECTION 5. FIRE-FIGHTING MEASURES

Form : Liquid

Flash point : 38 ℃ (100 ℉)Minimum for #1 NRLM ; 52° Minimum for #2 NRLM

Lower explosive limit : 0.7 %(V)

Upper explosive limit : 5 %(V)

Suitable extinguishing media : Carbon dioxide (CO2), Water spray, Dry chemical, Foam, Keep containers and surroundings cool with water spray.

Specific hazards during fire fighting : Fire Hazard Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Further information	:	Exposure to decomposition products may be a hazard to health. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Consider wind direction; stay upwind and uphill, if possible. Evacuate nonessential personnel and remove or secure all ignition sources. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Ensure adequate ventilation. Use personal protective equipment.
Environmental precautions	:	Carefully contain and stop the source of the spill, if safe to do so. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Take up with sand or oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

SECTION 7. HANDLING AND STORAGE

Handling	:	Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.
Advice on protection against fire and explosion	:	Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples: (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators. (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha). (3) Storage tank level floats must be effectively bonded. For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).
Dust explosion class	:	Not applicable

Requirements for storage areas and containers : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Advice on common storage : Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.

Other data : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

List	Components	CAS-No.	Type:	Value
OSHA Z1	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
ACGIH	Diesel Fuel	68476-30-2	TWA	100 mg/m3
ACGIH	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
	Xylene	1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
	Nonane	111-84-2	TWA	200 ppm

Engineering measures : Use only intrinsically safe electrical equipment approved for use in classified areas.

Eye protection : Safety glasses with side-shields reference to 29 CFR 1910.133

Hand protection : Gloves constructed of nitrile, neoprene, or PVC are recommended. Consult manufacturer specifications for further information.

Skin and body protection : If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. The resistance of specific material may vary from product to product as well as with degree of exposure.

Respiratory protection : A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. NIOSH/MSHA approved positive-pressure self-contained breathing apparatus (SCBA) or Type C positive-pressure supplied air with escape bottle must be used for gas concentrations above occupational exposure limits, for potential of uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.

Work / Hygiene practices	:	Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquid
Appearance	:	Clear, straw colored to black
Odor	:	Characteristic petroleum (kerosene) odor
Flash point	:	38 °C (100 °F)Minimum for #1 NRLM ; 52° Minimum for #2 NRLM
Thermal decomposition	:	No decomposition if stored and applied as directed.
Lower explosive limit	:	0.7 %(V)
Upper explosive limit	:	5 %(V)
Freezing point	:	Not applicable
Boiling point	:	160 °C(320 °F)
Vapor Pressure	:	< 2 mm Hg at 20 °C
Relative Vapor Density	:	5.7 (Air = 1.0)
Water solubility	:	Negligible
Percent Volatiles	:	100 %
Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature		Diesel Fuel Oils at terminal load rack: At least 25 pS/m Ultra Low Sulfur Diesel (ULSD) without conductivity additive: 0 pS/m to 5 pS/m ULSD at terminal load rack with conductivity additive: At least 50 pS/m but conductivity may decrease from environmental factors such as temperature drop. JP-8 at terminal load rack: 150 pS/m to 600 pS/m

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers. Viton ® ; Fluorel ®
Materials to avoid	:	Strong oxidizing agents Peroxides
Hazardous decomposition products	:	Carbon monoxide, carbon dioxide and noncombusted hydrocarbons (smoke). Diesel exhaust particulates may be a lung hazard - see Section 11.
Thermal decomposition	:	No decomposition if stored and applied as directed. No decomposition if used as directed.
Hazardous reactions	:	Keep away from oxidizing agents, and acidic or alkaline products.

SECTION 11. TOXICOLOGICAL INFORMATION

Carcinogenicity

NTP : Naphthalene (CAS-No.: 91-20-3)

IARC : Naphthalene (CAS-No.: 91-20-3)

OSHA : No component of this product which is present at levels greater than or equal to 0.1 % is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.
Naphthalene (CAS-No.: 91-20-3)

Skin irritation : Irritating to skin.

Eye irritation : Irritating to eyes.

Further information : Studies have shown that similar products produce skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.
Positive mutagenicity results have been reported.
Repeated over-exposure may cause liver and kidney injury
IARC classifies whole diesel fuel exhaust particulates as probably carcinogenic to humans (Group 2A). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.

Component:

Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6	Acute oral toxicity: LD50 rat Dose: 5,001 mg/kg Acute dermal toxicity: LD50 rabbit Dose: 2,001 mg/kg Acute inhalation toxicity: LC50 rat Dose: 7.64 mg/l Exposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Severe skin irritation Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation
Naphthalene	91-20-3	Acute oral toxicity: LD50 rat Dose: 2,001 mg/kg Acute dermal toxicity: LD50 rat Dose: 2,501 mg/kg Acute inhalation toxicity: LC50 rat Dose: 101 mg/l Exposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation

		Carcinogenicity: N11.00422130
Xylene	1330-20-7	Acute oral toxicity: LD50 rat Dose: 2,840 mg/kg Acute dermal toxicity: LD50 rabbit Dose: ca. 4,500 mg/kg Acute inhalation toxicity: LC50 rat Dose: 6,350 mg/l Exposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation
Nonane	111-84-2	Acute oral toxicity: LD50 mouse Dose: 218 mg/kg Acute inhalation toxicity: LC50 rat Exposure time: 4 h
1,2,4-Trimethylbenzene	95-63-6	Acute inhalation toxicity: LC50 rat Dose: 18 mg/l Exposure time: 4 h Skin irritation: Classification: Irritating to skin. Result: Skin irritation Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation
Sulfur	7704-34-9	Acute oral toxicity: LD50 rat Dose: 5,001 mg/kg Acute dermal toxicity: LD50 rabbit Dose: 2,001 mg/kg Acute inhalation toxicity: LC50 rat Dose: 9.24 mg/l Exposure time: 4 h Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation

SECTION 12. ECOLOGICAL INFORMATION

Biochemical Oxygen Demand (BOD)	:	No data available
Chemical Oxygen Demand (COD)	:	No data available
Adsorbed organic bound halogens (AOX)	:	Not included
Additional ecological information	:	Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

Component:

Naphthalene	91-20-3	Toxicity to algae:

		EC50 Species: Dose: 33 mg/l Exposure time: 24 h
1,2,4-Trimethylbenzene	95-63-6	Toxicity to fish: LC50 Species: Pimephales promelas (fathead minnow) Dose: 7.72 mg/l Exposure time: 96 h Acute and prolonged toxicity for aquatic invertebrates: EC50 Species: Daphnia Dose: 3.6 mg/l Exposure time: 48 h
Sulfur	7704-34-9	Acute and prolonged toxicity for aquatic invertebrates: EC0 Species: Daphnia magna (Water flea) Dose: > 10,000 mg/l Exposure time: 24 h

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal : Consult federal, state and local waste regulations to determine appropriate waste characterization of material and allowable disposal methods.

SECTION 14. TRANSPORT INFORMATION

CFR

Proper shipping name	: DIESEL FUEL
UN-No.	: 1202 (NA 1993)
Class	: 3
Packing group	: III

TDG

Proper shipping name	: DIESEL FUEL
UN-No.	: UN1202 (NA 1993)
Class	: 3
Packing group	: III

IATA Cargo Transport

UN UN-No.	: UN1202 (NA 1993)
Description of the goods	: DIESEL FUEL
Class	: 3
Packaging group	: III
ICAO-Labels	: 3
Packing instruction (cargo aircraft)	: 366
Packing instruction (cargo aircraft)	: Y344

IATA Passenger Transport

UN UN-No.	: UN1202 (NA 1993)
Description of the goods	: DIESEL FUEL
Class	: 3

	Packaging group	: III
	ICAO-Labels	: 3
	Packing instruction (passenger aircraft)	: 355
	Packing instruction (passenger aircraft)	: Y344
IMDG-Code		
	UN-No.	: UN 1202 (NA 1993)
	Description of the goods	: DIESEL FUEL
	Class	: 3
	Packaging group	: III
	IMDG-Labels	: 3
	EmS Number	: F-E S-E
	Marine pollutant	: No

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Combustible Liquid
Toxic by ingestion
Severe skin irritant
Moderate eye irritant
Possible Cancer Hazard

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)
The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply**.**

TSCA Status : On TSCA Inventory

DSL Status : All components of this product are on the Canadian DSL list.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA III US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components	CAS-No.
Naphthalene	91-20-3
Xylene	1330-20-7
1,2,4-trimethylbenzene	95-63-6

PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Components	CAS-No.
Sulfur	7704-34-9
1,2,4-trimethylbenzene	95-63-6
Nonane	111-84-2

Xylene	1330-20-7
Naphthalene	91-20-3
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6

MASS RTK — US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Components	CAS-No.
Sulfur	7704-34-9
1,2,4-Trimethylbenzene	95-63-6
Nonane	111-84-2
Xylene	1330-20-7
Naphthalene	91-20-3

NJ RTK — US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Components	CAS-No.
Sulfur	7704-34-9
1,2,4-Trimethylbenzene	95-63-6
Nonane	111-84-2
Xylene	1330-20-7
Naphthalene	91-20-3
Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

SECTION 16. OTHER INFORMATION

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Revision Date : 05/04/2011

1180, 1294, 1392, 1610, 1620, 1715

USA: MATERIAL SAFETY DATA SHEET

ETHANOL / ETHYL ALCOHOL

SUPPLIER:

ADDRESS:

TELEPHONE No. FOR INFORMATION:
EMERGENCY TELEPHONE No:
DATE ISSUED:

1. PRODUCT IDENTIFICATION

PRODUCT NAME: Ethyl alcohol 95%
CHEMICAL FORMULA: C_2H_5OH
C.A.S. Number: 64175
SYNONYMS: Ethanol, Grain Alcohol, 190-Proof Alcohol
D.O.T. SHIPPING DESCRIPTION: Ethyl Alcohol, Flammable Liquid, UN1170

2. HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

COMPONENT: Ethyl Alcohol 95%
OSHA PEL: 1000 ppm (1900 mg/m³)
ACGIH TLV: 1000 ppm (1900 mg/m³)

PRECAUTIONARY MEASURES:

WARNING! FLAMMABLE! HARMFUL IF SWALLOWED OR INHALED.
CAUSES EYE IRRITATION.
Keep away from heat, sparks and flame.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.
Avoid breathing vapor.

EMERGENCY/FIRST AID:

If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down

throat. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes.
In all cases get medical attention. See Section 7.

3. PHYSICAL DATA / CHEMICAL CHARACTERISTICS

BOILING POINT: 173°F (78.3°C);
SPECIFIC GRAVITY: (H_2O = 1): 0.816 @ 60°F (15.6°C);
VAPOR PRESSURE: 43 mmHg @ 68°F (20°C);
PERCENT VOLATILE BY VOLUME: 99.9+
VAPOR DENSITY: (Air = 1): 1.6;
EVAPORATION RATE: (CCl_4 = 1): 1.4
SOLUBILITY IN WATER: Complete.
APPEARANCE AND ODOR: Clear, colorless, volatile liquid with alcoholic odor.

4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 55°F (12.8°C) TCC
FLAMMABLE (EXPLOSIVE) LIMITS IN AIR (% BY VOLUME): Lower 3.3; Upper 19.0
AUTOIGNITION TEMPERATURE: 793°F (422°C)
OSHA CLASS: 1B Flammable Liquid
FIRE EXTINGUISHING MEDIA: Dry Chemical, foam or carbon dioxide. Water spray may be used to keep fire-exposed containers cool. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.
SPECIAL FIRE-FIGHTING PROCEDURES: Do not use ordinary foam; Do not breathe fumes; Avoid eye and skin contact; Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Vapors can flow along surfaces to distant ignition source and flash back. Containers may rupture violently in fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Alcohols can react vigorously with oxidizers.

5. REACTIVITY DATA:

STABILITY: Stable
CONDITIONS TO AVOID: Keep away from heat, sparks, flames
INCOMPATIBILITY (MATERIALS TO AVOID): Capable of reacting vigorously with oxidizing agents, such as nitrates, perchlorates, peroxides, sulfuric acid, nitric acid, etc.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide (CO_2) and Carbon Monoxide (CO).
HAZARDOUS POLYMERIZATION: Will not occur.

6. HEALTH HAZARD DATA

ACGIH THRESHOLD LIMIT VALUE: 1000 ppm (1900 mg/m³)
PRIMARY ROUTES OF EXPOSURE: Skin Contact; Skin absorption; Inhalation
SIGNS / SYMPTOMS OF EXPOSURE:

ACUTE: Exposure to ethyl alcohol vapors in excess of 1000 ppm in air may cause headache and irritation of the eyes, note and throat. Prolonged exposure may cause symptoms of alcohol intoxication, drowsiness, weakness, loss of appetite, and inability to concentrate. Exposure to very high concentrations may cause symptoms of alcohol intoxication, headache, drowsiness, tremors, fatigue, dizziness, and unconsciousness. Ingestion of 190 proof ethyl alcohol produces the typical effects of alcohol intoxication. Ingestion of very large doses can cause alcohol poisoning and death. Contact of liquid ethyl alcohol with the skin may cause drying and cracking due to defatting of the tissue.
CHRONIC: Repeated, prolonged skin contact can cause drying and cracking of the skin

and possible dermatitis.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin, eyes, liver, respiratory system, central nervous system.

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush thoroughly with running water for at least 15 minutes, including under eyelids. Get medical attention.
SKIN CONTACT: Flush area with water. Remove contaminated clothing. Get medical attention if irritation persists after flushing.
INHALATION: Remove to fresh air. Restore and/or support breathing as required. Get medical attention.
INGESTION: If victim is conscious and less than 2 hours have elapsed since ingestion, administer large quantities of water and induce vomiting or gastric lavage. Do not make an unconscious person vomit. Get medical attention immediately.

8. SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS: Local exhaust to maintain concentration of alcohol vapors below 1000 ppm.
SPECIFIC PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY: NIOSH approved respirator for organic vapors if ventilation is not adequate. For unknown concentrations, fire fighting, or high concentrations, use a self-contained breathing apparatus (SCBA) with full face piece.
EYE: Face shield, chemical safety goggles or safety glasses with side shields.
GLOVES: Butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, Viton, or other compatible material.
OTHER: Appropriate protective clothing for the work situation to minimize skin contact. Eyewash stations and safety showers should be available in areas of handling and use.

9. SPECIAL PRECAUTIONS

Store in tightly closed containers. Store in cool, dry, well-ventilated, fire resistant areas. Store out of direct sunlight, away from oxidizing agents and sources of heat or ignition. Electrically bond and ground metal containers during liquid transfer.

10. SPILL, LEAK AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Restrict access to area. Keep unprotected personnel upwind of spill.
Remove sources of heat, sparks, and flames.
Provide adequate ventilation.
Contain spill.
Prevent liquid from entering sewers and confined spaces.
Use non-sparking tools and equipment.
Follow federal, state, and local requirements for reporting spills and releases.
SMALL SPILLS: Absorb with sand or other suitable material; transfer to suitable disposal container. Flush area with water.
LARGE SPILLS: Dike far ahead of spill. Use water spray to reduce vapors and decrease fire hazard. Pick up liquid for recovery or disposal when feasible. Absorb residues with sand or other suitable material; transfer to suitable disposal containers.
DISPOSAL: Follow federal, state and local disposal requirements. Waste residues and liquids may be an ignitable hazardous waste.

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Naphtha

SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET

Date of Preparation: January 19, 2015

Section 1: IDENTIFICATION

Product Identifier:	Naphtha
Other Means of Identification:	Naphtha; Light Straight Run Naphtha; Heavy Straight Run Naphtha; Isomerate; Reformate; Gasoline Blend Stock; Pretreated Naphtha; EAC-100.
SDS Number:	962
Product Code:	EAC-100 (611600); High Octane Reformate (611400); Isomerate (611200); Low Octane Reformate (611300); Naphtha (622100).
Product Use:	Product is a complex mixture of petroleum hydrocarbons that contain hydrocarbons in the C_4-C_{10} range. This product is used as a feedstock or blend stock for production of gasoline.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	U.S. OIL & REFINING CO. 3001 Marshall Ave. Tacoma, WA 98421
Emergency Phone:	U.S. OIL & REFINING CO.: (253) 383-1651 CHEMTREC: 800-424-9300 NATIONAL POISON CENTER: 1-800-222-1222
Date of Preparation of SDS:	January 19, 2015

Section 2: HAZARD(S) IDENTIFICATION

CLASSIFICATION:

Flammable Liquids, Category 1
Skin Irritation, Category 2
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 1A
Toxic to Reproduction, Category 2
Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects
Specific Target Organ Toxicity (Repeated Exposure), Category 1
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Symbol(s):

Signal Word: Danger

Hazard Statements:
Extremely flammable liquid and vapor.
Causes skin irritation.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

PRECAUTIONARY STATEMENTS

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist, vapors, or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing and eye protection.

Response:
If swallowed: Immediately call a poison center or doctor.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center or doctor if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use dry chemical, CO_2, water spray or regular foam to extinguish.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: No applicable information was found.

Ingredients with Unknown Acute Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Petroleum distillates (Naphtha)	Not available.	8002-05-9	100
Benzene, dimethyl-	Xylene	1330-20-7	0 - 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 25*
Benzene, methyl-	Toluene	108-88-3	0 - 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 16*
n-Hexane	Not available.	110-54-3	0 - 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 13*
Benzene, 1,2,4-trimethyl-	1,2,4-Trimethylbenzene	95-63-6	0 - 0.1, 0.1 - 1, 1 - 5*
Benzene, ethyl-	Ethylbenzene	100-41-4	0 - 0.1, 0.1 - 1, 1 - 4.5*
Cyclohexane	Not available.	110-82-7	0 - 0.1, 0.1 - 1, 1 - 4*
Benzene	Not available.	71-43-2	0 - 0.1, 0.1 - 1, 1 - 2*
Naphthalene	Not available.	91-20-3	0 - 0.1

* Multiple concentration ranges are listed due to production variability, and in conformance with Canadian WHMIS requirements.

Section 4: FIRST-AID MEASURES

Inhalation:

If inhaled: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, get medical attention/advice. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness.

Skin Contact:

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Eye Contact:

If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

NFPA 704

SUITABLE/UNSUITABLE EXTINGUISHING MEDIA

Suitable Extinguishing Media: Small Fire: Dry chemical, CO_2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move undamaged containers from fire area if it can be done safely.

Unsuitable Extinguishing Media: Do not use straight streams. CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

SPECIFIC HAZARDS

Extremely flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Products of Combustion: Oxides of Carbon.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: Take precautionary measures against static discharge. This material is sensitive to static discharge.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Stay upwind and away from release.

Protective Equipment: Emergency eyewash capability should be available. Wear respiratory protection as conditions warrant.

Emergency Procedures: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. The use of explosion proof electrical equipment is recommended.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Methods for Containment: Stop leak if it can be done without risk. A vapor suppressing foam may be used to reduce vapors. Prevent spreading of material into sewers. Avoid allowing water runoff to contact spilled material.

Methods for Clean-Up: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

Section 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:

Do not swallow. Do not breathe mist, vapors, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

CONDITIONS FOR SAFE STORAGE:
Store in a cool, dry, well-ventilated place. Use approved containers that are tightly closed and clearly labeled. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Protect storage containers from physical damage, sunlight, and all sources of ignition. Post area as "No Smoking".

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Component	ACGIH	OSHA
Petroleum distillates (Naphtha) [CAS No. 8002-05-9]	No TLV established.	500 ppm (TWA), 2000 mg/m³ (TWA); 400 ppm (TWA) [Vacated]
Xylene [CAS No. 1330-20-7]	100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)	100 ppm (TWA), 435 mg/m³ (TWA); 150 ppm (STEL) [Vacated]
Toluene [CAS No. 108-88-3]	20 ppm (TWA); A4; BEI (2006)	200 ppm (TWA); 300 ppm (C); 500 ppm (Peak) (Maximum duration: 10 minutes.) 100 ppm (TWA); 150 ppm (STEL) [Vacated]
n-Hexane [CAS No. 110-54-3]	50 ppm (TWA); Skin, BEI (1996)	500 ppm (TWA), 1800 mg/m³ (TWA); Skin. 50 ppm (TWA) [Vacated]
1,2,4-Trimethylbenzene [CAS No. 95-63-6]	25 ppm (TWA); (1970)	No PEL established.
Ethylbenzene [CAS No. 100-41-4]	20 ppm (TWA); A3; BEI (2010)	100 ppm (TWA), 435 mg/m³ (TWA); 125 ppm (STEL) [Vacated]
Cyclohexane [CAS No. 110-82-7]	100 ppm (TWA); (1964)	300 ppm (TWA), 1050 mg/m³ (TWA)
Benzene [CAS No. 71-43-2]	0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)	1 ppm (TWA); 5 ppm (STEL);
Naphthalene [CAS No. 91-20-3]	10 ppm (TWA); Skin; A3 (2013)	10 ppm (TWA), 50 mg/m³ (TWA); 15 ppm (STEL) [Vacated]

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit
C: Ceiling

ENGINEERING CONTROLS

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection:	Wear safety glasses, goggles or faceshield to prevent eye and face contact. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
Hand Protection:	Wear protective gloves. Consult manufacturer specifications for further information.
Skin and Body Protection:	Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.
Respiratory Protection:	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then a NIOSH approved air-purifying respirator, with organic vapor cartridge or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection. Emergency eyewash should be available near operations presenting a potential splash exposure. Avoid skin exposure. Promptly remove contaminated clothing, gloves, and shoes.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Transparent, clear to amber liquid.
Color:	Colorless to amber.
Odor:	Petroleum hydrocarbon. Gasoline.
Odor Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.

Initial Boiling Point:	32 °C (90 °F)
Boiling Range:	32 to 204 °C (90 to 400 °F)
Flash Point:	-43 °C (-45 °F) (ASTM D-56)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Approximately 1.1 %
Upper Flammability Limit:	Approximately 8.2 %
Vapor Pressure:	Approximately 5 to 15 psi at 38 °C (100 °F) (Reid Vapor Pressure)
Vapor Density:	Approximately 3.5 (Air = 1)
Relative Density:	0.64 to 0.83 (Water = 1)
Solubilities:	Insoluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	277 °C (530 °F)
Decomposition Temperature:	Not available.
Viscosity:	0.1 cSt at 25 °C (77 °F)
Percent Volatile, wt. %:	Appreciable.
VOC Content, wt. %:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Stable under normal storage conditions.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Strong acids. Strong oxidizers.
Hazardous Decomposition Products:	Oxides of Carbon. Hydrocarbons.

Section 11: TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

ACUTE EXPOSURE

PRODUCT TOXICITY

Oral: 4578 mg/kg, calculated

Dermal: Not available.

Inhalation: Not available.

COMPONENT TOXICITY

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Petroleum distillates (Naphtha)	8002-05-9	4300 mg/kg (rat)	Not available.	Not available.
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Toluene	108-88-3	2600 mg/kg (rat)	14.1 mL/kg (rabbit)	49000 mg/m³ (rat); 4H
n-Hexane	110-54-3	25000 mg/kg (rat)	Not available.	48000 ppm (rat); 4H
1,2,4-Trimethylbenzene	95-63-6	5000 mg/kg (rat)	Not available.	18000 mg/m³ (rat); 4H

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Bone marrow. Liver. Kidneys. Reproductive system. Central nervous system (CNS). Peripheral nervous system.

SYMPTOMS (including delayed and immediate effects)

Inhalation: May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. High vapor concentrations of Xylene are anesthetic and central nervous system depressants. Inhalation of Toluene may result in peculiar skin sensations (e. g. pins and needles) or numbness. Very high concentrations may cause unconsciousness and death.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

CHRONIC EFFECTS (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Cardiovascular system. Bone marrow. Liver. Kidneys. Reproductive system. Central nervous system (CNS). Peripheral nervous system.

Chronic Effects: Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. High vapor concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. Repeated dermal application of crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow. Reports of chronic poisoning with Benzene, Toluene, Ethylbenzene or Xylene describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapor may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. Chronic inhalation of n-Hexane may cause peripheral nerve disorders and central nervous system effects. 1,2,4-Trimethylbenzene may cause CNS changes, asthmatic bronchitis, and changes in the blood such as anemia or thrombocytopenia (i.e. low thrombocyte count that may affect the blood's ability to clot). This material contains Cyclohexane which is known to cause liver and kidney damage.

Carcinogenicity: May cause cancer. Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumours in animals following prolonged and repeated skin contact. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.
Toluene	A4	Group 3	Not listed.	Not listed.	Not listed.
Ethylbenzene	A3	Group 2B	Not listed.	OSHA Carcinogen.	Listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Naphthalene	A3	Group 2B	List 2	OSHA Carcinogen.	Listed.

Mutagenicity: May cause genetic defects.

Reproductive Effects: Suspected of damaging fertility or the unborn child.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Possible risk of harm to the unborn child. Exposure to Toluene may affect the developing fetus. Benzene and Xylene have caused adverse fetal effects in laboratory animals.

Toxicologically Synergistic Materials: Xylene reacts synergistically with n-Hexane to enhance hearing loss.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: This product is potentially toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

Persistence / Degradability: Primary components of this product are considered biodegradable in aerobic conditions.

Bioaccumulation / Accumulation: On release to the environment the lighter, product components will readily evaporate, but the remainder may become dispersed in the water column or adsorbed to soil or sediment.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

REGULATORY INFORMATION	ID NUMBER	EMERGENCY RESPONSE GUIDEBOOK	PROPER SHIPPING NAME	CLASS	PACKING GROUP	PLACARD
DOT Classification	UN1268	Guide 128	PETROLEUM DISTILLATES, N.O.S.	3	I	
TDG Classification	UN1268	Guide 128	PETROLEUM DISTILLATES, N.O.S.	3	I	
IATA/ICAO	UN1268	Guide 128	PETROLEUM DISTILLATES, N.O.S.	3	I	

Section 15: REGULATORY INFORMATION

CHEMICAL INVENTORIES

US (TSCA)
The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

FEDERAL REGULATIONS

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:
Class B2 - Flammable Liquids.
Class D2A - Carcinogenicity.
Class D2A - Embryotoxicity.
Class D2A - Mutagenicity.
Class D2A - Chronic toxic effects.
Class D2B - Skin irritant.
Class D2B - Eye irritant.

Hazard Symbols:

United States
This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Toluene	Not listed.	Not listed.	1000	313	U220	Not listed.
n-Hexane	Not listed.	Not listed.	5000	313	Not listed.	Not listed.
1,2,4-Trimethylbenzene	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.
Ethylbenzene	Not listed.	Not listed.	1000	313	Not listed.	Not listed.
Cyclohexane	Not listed.	Not listed.	1000	313	U056	Not listed.
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Naphthalene	Not listed.	Not listed.	100	313	U165	Not listed.

SARA SECTION 311/312 - EPA HAZARD CATEGORIES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	–	–

State Regulations
California
California Prop 65: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Component	Type of Toxicity
Toluene	developmental
Ethylbenzene	cancer
Benzene	cancer; developmental, male
Naphthalene	cancer

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

Date of Preparation of SDS: January 19, 2015

SDS Expiry Date (Canada): January 18, 2018

Version: 1.0

GHS SDS Prepared by: **Deerfoot Consulting Inc.**
Phone: (403) 720-3700

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Material Name : **Naphtha (petroleum), full range alkylate CAS 64741-64-6**
REACH Registration No. : 01-2119485026-38-0013

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use : For use as a component in gasoline. Feedstock in chemical industry. Refinery Feedstock. Please refer to Ch16 and/or the annexes for the registered uses under REACH.

Uses Advised Against : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

1.3 Details of the Supplier of the safety data sheet

Manufacturer/Supplier : **Shell Trading International Limited**
80 Strand
London,
WC2R 0ZA
United Kingdom

Telephone : +44 (0) 20 7546 5000
Email Contact for MSDS : TRsds@shell.com

1.4 Emergency Telephone Number

: +44 (0)151 350 4595

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008 (CLP)	
Hazard classes / Hazard categories	**Hazard Statement**
Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Aspiration hazard, Category 1	H304

Specific target organ toxicity - single exposure, Category 3; Inhalation; Narcotic effects.	H336
Chronic hazards to the aquatic environment, Category 2	H411

67/548/EEC or 1999/45/EC	
Hazard Characteristics	**R-phrase(s)**
Highly flammable.; Irritant.; Harmful.; Dangerous for the environment.	R11; R38; R65; R67; R51/53

Classification triggering components : Contains Low boiling point naphtha.

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008

Symbol(s) :

Signal Words : Danger

CLP Hazard Statements : PHYSICAL HAZARDS:
H225: Highly flammable liquid and vapour.

HEALTH HAZARDS:
H315: Causes skin irritation.
H304: May be fatal if swallowed and enters airways.
H336: May cause drowsiness or dizziness.

ENVIRONMENTAL HAZARDS:
H411: Toxic to aquatic life with long lasting effects.

CLP Precautionary statements
Prevention : P201: Obtain special instructions before use.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Safety Data Sheet

Response	:	P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Storage	:	P403+P233: Store in a well-ventilated place. Keep container tightly closed.
Disposal:	:	P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Labeling according to Directive 1999/45/EC / 67/548/EEC

EC Symbols	:	F Highly flammable. Xn Harmful. N Dangerous for the environment.

EC Classification	:	Highly flammable. Irritant. Harmful. Dangerous for the environment.
EC Risk Phrases	:	R11 Highly flammable. R38 Irritating to skin. R65 Harmful: may cause lung damage if swallowed. R67 Vapours may cause drowsiness and dizziness. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
EC Safety Phrases	:	S23 Do not breathe fumes, vapour or spray. S24 Avoid contact with skin. S29 Do not empty into drains. S36/37 Wear suitable protective clothing and gloves. S51 Use only in well-ventilated areas. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets. S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

2.3 Other Hazards

Health Hazards	:	Slightly irritating to respiratory system.

Safety Hazards	:	Electrostatic charges may be generated during handling. Electrostatic discharge may cause fire. Liquid evaporates quickly and can ignite leading to a flash fire, or an explosion in a confined space.
Other Information	:	This product is intended for use in closed systems only.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

CAS No. : 64741-64-6

3.2 Mixtures

Mixture Description : A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C3 through C5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C7 through C12 and boiling in the range of approximately 90℃ to 220℃ (194℉ to 428℉). Product is not a mixture according to regulation 1907/2006/EC.

Hazardous Components

Classification of components according to Regulation (EC) No 1272/2008

Chemical Name	CAS No.	EINECS	REACH Registration No.	Conc.
Naphtha (petroleum), full-range alkylate	64741-64-6	265-066-7	01-2119485026-38	100.00%

Chemical Name	Hazard Class & Category	Hazard Statement
Naphtha (petroleum), full-range alkylate	Flam. Liq., 2; Skin Corr., 2; Asp. Tox., 1; STOT SE, 3; Aquatic Chronic, 2;	H225; H315; H304; H336; H411;

Classification of components according to 67/548/EEC

Chemical Name	CAS No.	EINECS	REACH Registration No.	Symbol(s)	R-phrase(s)	Conc.
Naphtha (petroleum), full-range alkylate	64741-64-6	265-066-7	01-2119485026-38	F, Xi, Xn, N	R11; R38; R65; R67; R51/53	100.00%

Additional Information : Refer to chapter 16 for full text of EC R-phrases.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact : Flush eyes with water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.

Ingestion : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

4.2 Most important symptoms and effects, both acute and delayed : Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Eye irritation signs and symptoms may include a burning sensation and a temporary redness of the eye. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure.

4.3 Indication of any immediate medical attention and special treatment needed : Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

5.1 Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
5.2 Special hazards arising from the substance or mixture	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water.
5.3 Advice for firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.
Additional Advice	:	If the fire cannot be extinguished the only course of action is to evacuate immediately. Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

6. ACCIDENTAL RELEASE MEASURES

Observe the relevant local and international regulations. Avoid contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. If contamination of sites occurs remediation may require specialist advice. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Take precautionary measures against static discharges.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures	:	Vapour can travel for considerable distances both above and below the ground surface. Underground services (drains, pipelines, cable ducts) can provide preferential flow paths. Do not breathe fumes, vapour. Take measures to minimise the effects on groundwater. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches,

		and waterways. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter.
6.2 Environmental Precautions	:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
6.3 Methods and Material for Containment and Cleaning up	:	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Additional Advice	:	Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.
6.4 Reference to other sections	:	For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.

7. HANDLING AND STORAGE

General Precautions	:	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Prevent spillages.

		For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier. Do not use as a cleaning solvent or other non-motor fuel uses.
7.1 Precautions for Safe Handling	:	When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Never siphon by mouth. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Avoid exposure.
7.2 Conditions for safe storage, including any incompatibilities	:	Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
7.3 Specific end use(s)	:	Please refer to Ch16 and/or the annexes for the registered uses under REACH.
Additional Information	:	Ensure that all local regulations regarding handling and storage facilities are followed. Exposure to this product should be reduced as low as reasonably practicable. Reference should be made to the Health and Safety Executive's publication "COSHH Essentials".
Product Transfer	:	Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes.
Recommended Materials	:	For containers, or container linings use mild steel, stainless steel. Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.
Unsuitable Materials	:	Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may

be suitable for glove materials.

Container Advice : Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

8.1 Control Parameters

Occupational Exposure Limits

Additional Information : SHELL IS is the Shell Internal Standard. Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes.

Material	Source	Hazard Designation
Naphtha (petroleum), full-range alkylate	EH40 (UK)	Carcinogenic.

Biological Exposure Index (BEI)

Not applicable.

Derived No Effect Levels (DNEL/DMEL) Table

Component	Exposure Route	Exposure Type (long/short)	Application Area	Value
Naphtha (petroleum), full-range alkylate	Inhalation	acute, systemic effects	Worker	1300 mg/m3/15 mins

	Inhalation	acute, systemic effects	Consumer	1200 mg/m3/15 mins

PNEC related information : Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

8.2 Exposure Controls

General Information : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use.

Do not ingest. If swallowed then seek immediate medical assistance.

Occupational Exposure Controls

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye Protection : Chemical splash goggles (chemical monogoggles). Approved to EU Standard EN166.

Hand Protection : Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.

Body protection : Chemical resistant gloves/gauntlets, boots, and apron (where

risk of splashing).

Respiratory Protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations.
Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN14387.

Thermal Hazards : Not applicable.

Monitoring Methods : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Environmental Exposure Controls

Environmental exposure control measures : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	:	Pale yellow. Straw. Liquid.
Odour	:	Hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	90 - 220 °C / 194 - 428 °F
Melting / freezing point	:	Not applicable.
Flash point	:	< 0 °C / 32 °F
Upper / lower Flammability or Explosion limits	:	1.4 - 7.6 %(V)
Ignition temperature	:	275 - 445 °C / 527 - 833 °F
Vapour pressure	:	250 - 600 hPa at 38 °C / 100 °F
Density	:	0.62 - 0.88 g/cm3 at 15 °C / 59 °F
Water solubility	:	Not applicable

Solubility in other solvents	:	Data not available
n-octanol/water partition coefficient (log Pow)	:	Not applicable.
Kinematic viscosity	:	0.5 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	Data not available
Decomposition Temperature	:	Data not available

9.2 Other Information

Other Information	:	Not applicable.

10. STABILITY AND REACTIVITY

10.1 Reactivity	:	May oxidise in the presence of air.
10.2 Chemical stability	:	Stable under normal conditions of use.
10.3 Possibility of Hazardous Reactions	:	May oxidise in the presence of air.
10.4 Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
10.5 Incompatible Materials	:	Strong oxidising agents.
10.6 Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects

Basis for Assessment	:	Information given is based on product data, a knowledge of the components and the toxicology of similar products.
Likely Routes of Exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Acute Oral Toxicity	:	Low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Low toxicity: LC50 >5 mg/l / 4.00 h, Rat

Skin corrosion/irritation	:	Irritating to skin.
Serious eye damage/irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Based on human experience, breathing of vapours or mists may cause a temporary burning sensation to nose, throat and lungs.
Respiratory or skin sensitisation	:	Not expected to be a sensitiser.
Aspiration Hazard	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Germ cell mutagenicity	:	Not expected to be mutagenic.
Carcinogenicity	:	Not expected to be carcinogenic.
Reproductive and Developmental Toxicity	:	Not expected to be a developmental toxicant. Not expected to impair fertility.
Specific target organ toxicity - single exposure	:	High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Specific target organ toxicity - repeated exposure	:	Expected to have low toxicity on repeated exposure.
Additional Information	:	Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

12. ECOLOGICAL INFORMATION

Basis for Assessment	:	Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.
12.1 Toxicity		
Acute Toxicity	:	Expected to be toxic: (to aquatic organisms) LL/EL/IL50 > 1 <= 10 mg/l LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.
Fish	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
Aquatic crustacea	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
Algae/aquatic plants	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
Microorganisms	:	Expected to be harmful: LL/EL/IL50 >10 <= 100 mg/l
Chronic Toxicity		
Fish	:	NOEC/NOEL expected to be > 1.0 - <= 10 mg/l
Aquatic crustacea	:	NOEC/NOEL expected to be > 1.0 - <= 10 mg/l
12.2 Persistence and	:	Expected to be inherently biodegradable. Oxidises rapidly by

degradability		photo-chemical reactions in air.
12.3 Bioaccumulative Potential	:	Contains constituents with the potential to bioaccumulate.
12.4 Mobility	:	Floats on water. If product enters soil, one or more constituents will be mobile and may contaminate groundwater.
12.5 Result of PBT and vPvB assesment	:	The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
Container Disposal	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer. Do not pollute the soil, water or environment with the waste container.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with. EU Waste Disposal Code (EWC): 13 07 03 wastes of liquid fuels, other fuels (including mixtures). The number given to waste is associated with the appropriate usage. The user must decide if their particular use results in another waste code

being assigned.
Hazardous Waste (England and Wales) Regulations 2005.

14. TRANSPORT INFORMATION

Land transport (ADR/RID):
ADR

14.1 UN number	:	1268
14.2 UN proper shipping name	:	PETROLEUM DISTILLATES, N.O.S.
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Danger label (primary risk)	:	3
14.5 Environmental hazards	:	Environmentally Hazardous
14.6 Special precautions for user	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

RID

14.1 UN number	:	1268
14.2 UN proper shipping name	:	PETROLEUM DISTILLATES, N.O.S.
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Danger label (primary risk)	:	3
14.5 Environmental hazards	:	Environmentally Hazardous
14.6 Special precautions for user	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
14.6 Special precautions for user	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Sea transport (IMDG Code):

14.1 UN number	:	UN 1268
14.2 UN proper shipping name	:	PETROLEUM DISTILLATES, N.O.S.
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II

14.5 Marine pollutant	:	Yes
14.6 Special precautions for user	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Air transport (IATA):

14.1 UN number	:	1268
14.2 UN proper shipping name	:	Petroleum distillates, n.o.s.
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
14.6 Special precautions for user	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution Category	:	Not applicable.
Ship Type	:	Not applicable.
Product Name	:	Not applicable.
Special Precaution	:	Not applicable.
Additional Information	**:**	MARPOL Annex 1 rules apply for bulk shipments by sea.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulatory Information

Other Information	:	Environmental Protection Act 1990 (as amended). Health and Safety at Work Act 1974. Consumers Protection Act 1987. Control of Pollution Act 1974. Environmental Act 1995. Factories Act 1961. Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations. Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. Control of Substances Hazardous to Health

Regulations 1994 (as amended). Road Traffic (Carriage of Dangerous Substances in Packages) Regulations. Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations. Road Traffic (Carriage of Dangerous Substances in Road Tankers in Tank Containers) Regulations. Road Traffic (Training of Drivers of Vehicles Carrying Dangerous Goods) Regulations. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. Health and Safety (First Aid) Regulations 1981. Personal Protective Equipment (EC Directive) Regulations 1992. Personal Protective Equipment at Work Regulations 1992.

15.2 Chemical Safety Assessment : A Chemical Safety Assessment was performed for this substance.

16. OTHER INFORMATION

R-phrase(s)

R11	Highly flammable.
R38	Irritating to skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

CLP Hazard Statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Identified Uses according to the Use Descriptor System

Uses - Worker
Title : Manufacture of substance
- Industrial

Uses - Worker
Title : Use as an intermediate
- Industrial

Uses - Worker
Title : Distribution of substance
- Industrial

Safety Data Sheet

Uses - Worker
Title : Formulation & (re)packing of substances and mixtures
- Industrial

Uses - Worker
Title : Use as a fuel
- Industrial

Uses - Worker
Title : Use as a fuel
- Professional

Uses - Consumer
Title : Use as a fuel
- Consumer

Recommended Restrictions on Use (Advice Against) : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

Additional Information : This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

Other Information

Further Information : This product is intended for use in closed systems only.

MSDS Distribution : The information in this document should be made available to all who may handle the product.

MSDS Version Number : 1.3

MSDS Effective Date : 23.03.2012

MSDS Revisions : A vertical bar (|) in the left margin indicates an amendment from the previous version.

MSDS Regulation : Regulation 1907/2006/EC

Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not

therefore be construed as guaranteeing any specific property of the product.

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Manufacture of substance - Industrial
Use Descriptor	**Sector of Use**: SU 3, SU8, SU9 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 **Environmental Release Categories**: ERC 1, ERC 4, ESVOC SpERC 1.1.v1
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

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General exposures (closed systems).	No other specific measures identified.
General exposures (closed systems).with sample collection.	No other specific measures identified.
General exposures (open systems).	Provide extract ventilation to points where emissions occur.
Mixing operations (closed systems).	No other specific measures identified.
Process sampling.	No other specific measures identified.
Laboratory activities.	Handle in a fume cupboard or under extract ventilation.
Bulk transfers.	No other specific measures identified.
Drum/batch transfers.	No other specific measures identified.
Equipment maintenance.	No other specific measures identified.
Storage.	No other specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.87E+07
Fraction of Regional tonnage used locally:	0.032
Annual site tonnage (tonnes/year):	6.0E+05
Maximum daily site tonnage (kg/day):	2.0E+06
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0.05
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-03

Release fraction to soil from process (initial release prior to RMM):	1.0E-04
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
Onsite waste water treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	99.0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	99.1
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	80.4
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	99.1
Maximum allowable site tonnage (MSafe) (kg/d):	2.0E+06
Assumed domestic sewage treatment plant flow (m3/d)	10,000
Conditions and Measures related to external treatment of waste for disposal	
During manufacturing no waste of the substance is generated.	
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Safety Data Sheet

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
Risk Management Measures are based on qualitative risk characterisation.

Section 4.2 -Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as an intermediate - Industrial
Use Descriptor	**Sector of Use**: SU 3, SU8, SU9 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 **Environmental Release Categories**: ERC 6A, ESVOC SpERC 6.1a.v1
Scope of process	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

General exposures (closed systems).	No other specific measures identified.
General exposures (closed systems).with sample collection.	No other specific measures identified.
General exposures (open systems).	Provide extract ventilation to points where emissions occur.
Mixing operations (closed systems).	No other specific measures identified.
Process sampling.	No other specific measures identified.
Laboratory activities.	Handle in a fume cupboard or under extract ventilation.
Bulk transfers.	No other specific measures identified.
Drum/batch transfers.	No other specific measures identified.
Equipment maintenance.	No other specific measures identified.
Storage.	No other specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	2.21E+06
Fraction of Regional tonnage used locally:	0.0068
Annual site tonnage (tonnes/year):	1.5E+04
Maximum daily site tonnage (kg/day):	5.0E+04
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0.025
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-03

Release fraction to soil from process (initial release prior to RMM):	1.0E-03
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
Risk from environmental exposure is driven by freshwater sediment.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	80
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	92.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) (kg/d):	7.8E+04
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
This substance is consumed during use and no waste of substance is generated.	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is generated.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Safety Data Sheet

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
Risk Management Measures are based on qualitative risk characterisation.

Section 4.2 -Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Distribution of substance - Industrial
Use Descriptor	**Sector of Use**: SU 3 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 **Environmental Release Categories**: ERC 1, ERC 2, ERC 3, ERC 4, ERC 5, ERC 6A, ERC 6B, ERC 6C, ERC 6D, ERC 7, ESVOC SpERC 1.1b.v1
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20℃ above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

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General exposures (closed systems).	No other specific measures identified.
General exposures (closed systems).with sample collection.	No other specific measures identified.
General exposures (open systems).	Provide extract ventilation to points where emissions occur.
Process sampling.	No other specific measures identified.
Laboratory activities.	Handle in a fume cupboard or under extract ventilation.
Bulk closed loading and unloading.	No other specific measures identified.
Drum and small package filling.	Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Equipment cleaning and maintenance.	No other specific measures identified.
Storage.	No other specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.87E+07
Fraction of Regional tonnage used locally:	0.002
Annual site tonnage (tonnes/year):	3.75E+04
Maximum daily site tonnage (kg/day):	1.2E+05
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	100
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	1.0E-03
Release fraction to wastewater from process (initial release prior to RMM):	1.0E-05
Release fraction to soil from process (initial release prior to RMM):	1.0E-05

Safety Data Sheet

Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	12
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) (kg/d):	1.1E+06
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or regional regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Safety Data Sheet

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
Risk Management Measures are based on qualitative risk characterisation.

Section 4.2 -Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Formulation & (re)packing of substances and mixtures - Industrial
Use Descriptor	**Sector of Use**: SU 3, SU 10 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 **Environmental Release Categories**: ERC 2, ESVOC SpERC 2.2.v1
Scope of process	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin

	problems that may develop.
General exposures (closed systems).	No other specific measures identified.
General exposures (closed systems).with sample collection.	No other specific measures identified.
General exposures (open systems).	Provide extract ventilation to points where emissions occur.
Process sampling.	No other specific measures identified.
Mixing operations (closed systems).	Provide extract ventilation to points where emissions occur.
Laboratory activities.	Handle in a fume cupboard or under extract ventilation.
Bulk transfers.	Ensure material transfers are under containment or extract ventilation.
Manual.Transfer from/pouring from containers.	Ensure material transfers are under containment or extract ventilation.
Drum/batch transfers.	Ensure material transfers are under containment or extract ventilation.
Drum and small package filling.	Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Equipment cleaning and maintenance.	No specific measures identified.
Storage.	No other specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.65E+07
Fraction of Regional tonnage used locally:	0.0018
Annual site tonnage (tonnes/year):	3.0E+04
Maximum daily site tonnage (kg/day):	1.0E+05
Frequency and Duration of Use	
Continuous release.	

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Emission Days (days/year):	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0.025
Release fraction to wastewater from process (initial release prior to RMM):	2.0E-03
Release fraction to soil from process (initial release prior to RMM):	1.0E-04
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	56.5
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	94.7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) (kg/d):	1.0E+05
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or regional regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

Safety Data Sheet

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.	

Section 4.2 -Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel - Industrial
Use Descriptor	**Sector of Use**: SU 3 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 **Environmental Release Categories**: ERC 7, ESVOC SpERC 7.12a.v1
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed	No specific measures identified.

systems).	
Bulk closed unloading.	No specific measures identified.
Drum/batch transfers.	No specific measures identified.
Refueling.	No specific measures identified.
Refuelling aircraft.	Ensure material transfers are under containment or extract ventilation.
Use as a fuel(closed systems).	No specific measures identified.
Equipment maintenance.	No other specific measures identified.
Storage.	No specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.4E+06
Fraction of Regional tonnage used locally:	1
Annual site tonnage (tonnes/year):	1.4E+06
Maximum daily site tonnage (kg/day):	4.6E+06
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	2.5E-03
Release fraction to wastewater from process (initial release prior to RMM):	1.0E-05
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	

Safety Data Sheet

Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	99.4
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	76.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) (kg/d):	4.6E+06
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is generated.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	

Safety Data Sheet

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Section 4.2 -Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Worker

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel - Professional
Use Descriptor	**Sector of Use**: SU 22 **Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 **Environmental Release Categories**: ERC 9A, ERC 9B, ESVOC SpERC 9.12b.v1
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Worker Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

Contributing Scenarios	**Risk Management Measures**
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed	No other specific measures identified.

systems).	
Preparation of material for application.Mixing operations (closed systems).	No other specific measures identified.
Bulk closed unloading.	No other specific measures identified.
Drum/batch transfers.	No other specific measures identified.
Refueling.	No other specific measures identified.
Use as a fuel(closed systems).	No other specific measures identified.
Equipment maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Storage.	No other specific measures identified.

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.19E+06
Fraction of Regional tonnage used locally:	5.0E-04
Annual site tonnage (tonnes/year):	5.9E+02
Maximum daily site tonnage (kg/day):	1.6E+03
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0.01
Release fraction to wastewater from process (initial release prior to RMM):	1.0E-05
Release fraction to soil from process (initial release prior to RMM):	1.0E-05
Technical conditions and measures at process level (source) to prevent release	

Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	3.4
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) (kg/d):	1.5E+04
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is generated.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Safety Data Sheet

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Section 4.2 -Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Safety Data Sheet

Exposure Scenario - Consumer

LBP Naphtha (< 0.1%Benzene)	
SECTION 1	**EXPOSURE SCENARIO TITLE**
Title	Use as a fuel - Consumer
Use Descriptor	**Sector of Use**: SU 21 **Process Categories**: PROC 13 **Environmental Release Categories**: ERC 9A, ERC 9B, ESVOC SpERC 9.12c.v1
Scope of process	Covers consumer uses in liquid fuels.

SECTION 2	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

Section 2.1	**Control of Consumer Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
Concentration of substance in product.	Unless otherwise stated:
	Covers concentrations up to 100 %
Amounts Used	
Unless otherwise stated:	
for each use event, covers amount up to (g):	37,500
covers skin contact area (cm2):	420
Frequency and Duration of Use	
Unless otherwise stated:	
covers use up to (times/day of use):	0.143
Covers use up to (hours/event):	2
Other Operational Conditions affecting Exposure	
Unless otherwise stated:	
Covers use at ambient temperatures.	

Safety Data Sheet

Covers use in room size of 20m3.
Covers use under typical household ventilation.

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Fuels. Liquid: Automotive Refuelling.	Covers concentrations up to 100 %
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 210 cm2
	For each use event, covers amount up to 37,500 g.
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 0.05 hours/event
Fuels. Liquid Scooter Refuelling.	Covers concentrations up to 100 %
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 210 cm2
	For each use event, covers amount up to 3,750 g.
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 0.03 hours/event
Fuels. Liquid, Garden Equipment - Use.	Covers concentrations up to 100 %
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 750 g.
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 2.00 hours/event
Fuels. Liquid: Garden Equipment - Refuelling.	Covers concentrations up to 100 %
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 420 cm2
	For each use event, covers amount up to 750 g.
	Covers use in a one car garage (34 m3) under typical

	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.03 hours/event

Section 2.2	**Control of Environmental Exposure**
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.39E+07
Fraction of Regional tonnage used locally:	5.0E-04
Annual site tonnage (tonnes/year):	7.0E+03
Maximum daily site tonnage (kg/day):	1.9E+04
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0.01
Release fraction to wastewater from process (initial release prior to RMM):	1.0E-05
Release fraction to soil from process (initial release prior to RMM):	1.0E-05
Conditions and Measures related to municipal sewage treatment plant	
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1.8E+05
Assumed domestic sewage treatment plant flow (m3/d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is generated.	

SECTION 3	**EXPOSURE ESTIMATION**
Section 3.1 - Health	

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

Section 3.2 - Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**
Section 4.1 - Health	
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

FIGURE 11 - SAFETY DATA SHEETS

- Click to view/print Gasoline
- Click to view/print Unleaded Gasoline
- Click to view/print Diesel
- Click to view/print Ethanol
- Click to view/print Isomerate
- Click to view/print Alklate

U.S. Department of Homeland Security

United States Coast Guard

Commander
United States Coast Guard
Sector Portland

6767 N. Basin Ave.
Portland, Oregon 97217-3992
Phone: 503-240-2333
Fax: 503-240-2586

16611
07 December 2007

FIN# PDX20054

Shore Terminal Services, Portland Terminal
Attn: Mr. Mike Poirier
9420 NW St. Helens Rd.
Portland, OR 97231

Dear Sir:

In accordance with Title 33 Code of Federal Regulations (CFR) Section 154.325(d), this letter is issued to Shore Terminal Services, Portland Terminal to certify that the Operations Manual submitted on 25 September 2007, was "Examined by the Coast Guard" and met all applicable requirements for a transfer facility outlined in 33 CFR Parts 154 and 156.

Please submit any future amendments to the Operations Manual to this office in accordance with the procedures outlined in 33 CFR Section 154.320.

Maintain a copy of this letter with each copy of your Operations Manual. Your cooperation and effort to safeguard the environment and the port are greatly appreciated.

If you have any questions, please contact the Facilities Inspection Branch at (503)-240-2333.

Sincerely,

P. G. GERRITY
Captain, U. S. Coast Guard
Captain of the Port

October 1, 2013

Chief Port Operations Department
U. S. Coast Guard Captain of the Port
6767 N. Basin Avenue
Portland, Oregon 97217

Re: Updated Dock Operations Manual

NuStar Energy LLC/Shore Terminals LLC located at 9420 NW St. Helens Rd., Portland, Oregon 97231 hereby submits an updated dock operations manual for your review and acceptance.

Please contact me if you have any questions at 503-286-6732 ex. 7114.

Sincerely,

Steve Kober
Terminal Manager
Energy LLP

NuStar

Acknowledged receipt of this revised manual by U.S. Coast Guard

MSTR Derek Gill

Printed Name

Signature

January 27, 2021

Captain of the Port
U.S. Coast Guard Sector Columbia River
6767 N. Basin Rd.
Portland, OR 97217

RE: Person In Charge (P.I.C.) Designation Revision
NuStar Energy
9420 NW St Helens Rd.
Portland, OR 97231

Dear Sir/Madam:

This "Person in Charge" designation for the above-named facility has been recently updated and the following changes are effective immediately.

All personnel have completed the P.I.C. training and certification requirements per QAC 173-180-060 and 49 CFR-154.

Tom Hartley	Merrick Johnson
Mark Jackman	Max Byrum
Robert Bay	Bryan Bruner
Ryan Groesbeck	Brandon Jeffers
Mike Wise	Thomas L. Galloway
Mike McClannahan	Jason Ramsdell
Matt Hartley	Jeffrey Ames
Tom Coval	Peter Siegel

Please contact me directly if you have any questions regarding this notification.

Respectfully,

Jeff Hibner
NuStar Energy LP
Desk – 503.286.6732 ext. 7118
Cell – 206.445.8152
Jeff.Hibner@nustarenergy.com

Operational Excellence is No Accident

FIGURE 12 - ADDITIONAL INFORMATION

- Click to view/print Declaration of Inspection
- Click to view/print Op Manual Approval Dec 07, 2007
- Click to view/print USCG Submittal & Acknowledgement of Dock Ops 10/01/13
- Click to view/print USCG PIC Letter January 2021

FIGURE 13 - DISTRIBUTION LIST

PLAN HOLDER	ADDRESS	NUMBER OF COPIES			
		PAPER	DISTRIBUTION DATE	ELECTRONIC	DISTRIBUTION DATE

FIGURE 14 - RECORD OF CHANGES

Changes to this Plan will be documented on this page. Plan review and modifications will be initiated and coordinated by Oil Movements/Operations.

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
1/22/2009	Figure 5 - Emergency Response Contractors updated to include Non-Classified OSRO's	
3/4/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
3/4/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
5/7/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/9/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/9/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/9/2009	6 - DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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9/9/2010	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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4/19/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
4/19/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
4/19/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
7/11/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	

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10/21/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
11/10/2011	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
12/30/2011	DOCK OPS | Figure 6 - Dock Operations Manual Regulations	
2/14/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
2/20/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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2/22/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
3/7/2012	DOCK OPS | Figure 9 - Certificates of Adequacy	
3/7/2012	DOCK OPS | Figure 12 - Additional Information	
5/31/2012	DOCK OPS | Figure 6 - Dock Operations Manual Regulations	
5/31/2012	DOCK OPS | Figure 6 - Dock Operations Manual Regulations	
5/31/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/12/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/12/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
6/12/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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7/6/2012	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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4/22/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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7/11/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
7/11/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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9/15/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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11/18/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
11/20/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
11/20/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
11/20/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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12/22/2014	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
1/14/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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1/27/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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1/27/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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3/19/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
3/19/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
4/1/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
4/22/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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8/25/2015	DOCK OPS | Figure 12 - Additional Information	
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10/8/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
10/8/2015	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
10/28/2015	DOCK OPS | Figure 9 - Certificates of Adequacy	
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1/28/2016	DOCK OPS | Figure 5 - Notifications and Telephone Numbers	
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7/11/2016	Dock Ops | Table of Contents | Figure 4 - Dock Plot Plan	
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11/27/2017	Dock Ops | Table of Contents | Figure 11 - Material Safety Data Sheets	
11/27/2017	Dock Ops | Table of Contents | Figure 6 - Dock Operations Manual Regulations (33 CFR 154.310) | 33 CFR 154.310 - (5) Product Description (Refer to FIGURE 11 for product MSDS's)	
12/14/2017	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team	
12/14/2017	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
4/20/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
5/8/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
9/26/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team	
9/26/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
9/28/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Don Marti	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Don Marti, Jr.	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Todd Clark	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Todd Clark	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Todd Habets	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Chris Chan	
10/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
10/19/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
10/19/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
10/23/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update David Marshall, Shore Terminals LLC.	
10/23/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update David Marshall, Shore Terminals LLC.	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
10/25/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
10/25/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Chris Butler	
11/13/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Terry Schulte	
11/26/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
11/28/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
12/11/2018	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Oregon State Department of Environmental Quality	
12/13/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
12/13/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Occupational Safety and Health Administration (OSHA), Washington, DC	
12/18/2018	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update National Response Center	
1/7/2019	Dock Ops | Table of Contents | Figure 11 - Material Safety Data Sheets	
1/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Delete Kathy Curtis	
1/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Insert Leah VanEaton	
2/11/2019	Dock Ops | Table of Contents | Figure 12 - Additional Information	
2/27/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	
3/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
3/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
3/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
3/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
3/7/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	
3/15/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	
3/15/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Leah VanEaton	
3/20/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications	
3/20/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Hufman	
3/29/2019	Dock Ops | Table of Contents | Figure 8 - Emergency Response Equipment	
3/29/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory	
4/8/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
4/22/2019	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/22/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
5/3/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
5/3/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
5/17/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Insert Tricia Dietrich Petty	
5/23/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
5/28/2019	Dock Ops | Table of Contents | Figure 4 - Dock Plot Plan	
6/11/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
6/11/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
6/11/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
6/24/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
7/12/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
7/12/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Greg Matula	
8/14/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
9/23/2019	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
9/23/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
9/23/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/3/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
10/15/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
10/29/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
11/25/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
12/2/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Shore Terminals LLC.	
12/2/2019	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Shore Terminals LLC.	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Remove Bill Spackman, Supervisor - Operations	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Remove Todd Clark, Portland Senior Terminal Operator	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Insert Aaron Flett, Area Manager - PNW	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Aaron Flett	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Delete Bill Spackman	
1/22/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Delete Todd Clark	
1/30/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Clean Rivers Wildlife Rescue (Oregon)	
2/6/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
2/18/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
3/12/2020	Dock Ops | Table of Contents | Figure 9 - Certificates of Adequacy	
3/18/2020	Dock Ops | Table of Contents | Figure 12 - Additional Information	
3/26/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
3/26/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Aldridge	
4/8/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
4/28/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
4/29/2020	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/29/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/29/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
4/30/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Tricia Dietrich Petty	
5/11/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	
5/11/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Aaron Flett	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
5/11/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
5/12/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update EPA Region X	
5/12/2020	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update State of Washington Department of Ecology Spill Prevention, Preparedness, and Response Program	
5/12/2020	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
5/12/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
5/12/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
11/4/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update National Response Center	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jerome Jackson	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Todd Habets	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Aaron Flett	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Aaron Flett	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Ana Bertolucci	
12/10/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Rena Swafford	
12/14/2020	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Chris Chan	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Zack Chaffin, NuStar Energy LP	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner, Shore Terminals LLC / NuStar Energy LP	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Facility Response Team | Update Jeff Hibner	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Jeff Hibner	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Stephan Rosen	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Terry Schulte	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Joe Hufman	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Rena Swafford	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Leah VanEaton	
12/14/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Personnel and Business Unit Notifications | Update Don (JR) Marti, Jr.	
12/15/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty	
12/15/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers (renamed "Facility Response Team" to "Onsite Response Personnel" and "Emergency Response Personnel and Business Unit Notifications" to "Offsite Response Personnel")	
12/15/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Greg Matula	
12/15/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Joe Aldridge	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Aaron Flett	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Don (JR) Marti, Jr.	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Joe Hufman	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Zack Chaffin, NuStar Energy LP	
12/16/2020	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Leah VanEaton	
12/16/2020	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update U.S. Coast Guard - Sector Portland Oregon	
1/13/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Occupational Safety and Health Administration (OSHA) California	
1/13/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Occupational Safety and Health Administration (OSHA) Washington DC and California (CalOsha)	
1/13/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Occupational Safety and Health Administration (OSHA) Washington DC	
1/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Shawnna Poor	
1/27/2021	Dock Ops | Table of Contents | Figure 12 - Additional Information	
2/2/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5	
2/2/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update PHMSA.OPA90@dot.gov, Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5	
2/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Washington Department of Ecology (DOE), Southwest Region	
2/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	
2/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
2/26/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Oregon Department of Environmental Quality (DEQ) Spill Prevention and Management Division	
2/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
2/26/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Occupational Safety and Health Administration (OSHA) Washington DC	
6/23/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
6/23/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
6/23/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jerome Jackson	
7/2/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Washington Department of Fish & Wildlife	
7/2/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Washington Department of Fish & Wildlife	
7/2/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
7/2/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update U.S. Coast Guard - Marine Safety Unit, Portland, OR	
7/2/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Oregon State Police - Emergency Management Division/Oregon Emergency Response System, Salem, OR	
8/6/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Chris Cho	
8/6/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Joe Aldridge, Director Remediation	
8/6/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Jennifer Polk, HSE Manager - West Region	
9/9/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Washington Department of Fish & Wildlife Oil Spill Team	
9/9/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | External Contacts Directory | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Washington Department of Fish & Wildlife Oil Spill Team	
10/1/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/1/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
10/1/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/12/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
10/13/2021	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/13/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
10/19/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Todd Habets, Director of Health, Safety and Environmental	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Chris Cho, Sr Manager Corp Communications	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Shawnna Poor, Sr. Manager Security & Emergency Response	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Zack Chaffin, Terminal Manager - Vancouver QI, NuStar Energy LP	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Ryan Groesbeck, Operations Supervisor - Portland	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Ryan Groesbeck	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Brandon Jeffers	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Brandon Jeffers	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert David Marshall	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update David Marshall	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Jason Ramsdell	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jason Ramsdell	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Jeffery Ames	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeffery Ames	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Matt Hartley	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Matt Hartley	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Mike Wise	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Mike Wise	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Michael Ward	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Rex Gilberston	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Robert Bay	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Michael Ward	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Rex Gilberston	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Robert Bay	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Tom Hartley	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Tom Hartley	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Buddy Stubblefield, Manager, HSE – West Region	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Leticia Holbert, Superintendent Inventory & Traffic - Selby	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Shawnna Poor, Sr Manager Security & Emergency Response	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Shawnna Poor, Sr Manager Security & Emergency Response	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Shawnna Poor, Sr. Manager Security & Emergency Response, NuStar Logistics, L.P	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Brandon Ritchey, Lead HSE Specialist, NuStar Logistics, LP	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Larry Thompson, Sr Mgr Corporate Safety	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Alonso Rodriguez, Sr Manager Pipeline Safety	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Tricia Dietrich Petty, Director of Health & Safety, NuStar Logistics, L.P.	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Tresmon Smith, Sr Manager Surveying	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Kyle Oppliger, VP Terminal Operations	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Robert Hill, VP HSE	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Gary Koegeboehn, VP Pipeline Operations	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert John Koenig, VP Engineering	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Heath Reininger, Executive Director Real Estate & ROW	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Chris Cho, Sr Manager Corporate Communications	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Chris Rulon, VP Assistant General Counsel	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Mike Dillinger, Executive Director Permitting	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Shay Bluntzer, Executive Director Public Affairs	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Walter Thompson, Director Enterprise Architecture/Cyber Security	
12/31/2021	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Ron Walton, VP, Risk Management	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
1/11/2022	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Office of Pipeline Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, PHP 5	
1/20/2022	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
1/20/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
1/20/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
1/20/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
1/20/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Aaron Flett	
1/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jerome Jackson	
1/27/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jerome Jackson	
1/27/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
1/27/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
2/7/2022	Dock Ops | Table of Contents | Figure 13 - Distribution List | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
2/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Emergency Response Contractors | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
2/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Oil Spill Removal Organizations | Update Vancouver / Portland OSRO - , Clean Rivers Cooperative, Inc	
3/9/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Dale Combs, Terminal Scheduler - Stockton	
3/9/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Leah VanEaton, Operations Clerk - Portland	
3/9/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Dale Combs	
3/9/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Robert Hill, VP HSE	
3/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Jerome Jackson, General Manager - West Region	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
3/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Remove Chris Chan, Sr HSE Manager – West Region	
3/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Kirubhakaran Vyravan	
3/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Stephan Rosen	
3/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Chris Cho	
3/22/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Kirubhakaran Vyravan	
3/22/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Jeff Hibner	
3/22/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jeff Hibner	
3/22/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Dale Combs	
4/5/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Costello	
4/6/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel	
4/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Insert Kyle Bell, Operations Supervisor	
4/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Ryan Groesbeck	
4/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Insert Jim Roberts	
4/7/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Costello	
4/7/2022	Dock Ops | Table of Contents | Figure 6 - Dock Operations Manual Regulations (33 CFR 154.310) | 33 CFR 154.310(a) - (11) Drip and Discharge collector	
4/7/2022	Dock Ops | Table of Contents | Figure 8 - Emergency Response Equipment	
4/26/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
4/26/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty, NuStar Logistics, L.P.	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
4/26/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Larry Thompson	
4/26/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Chris Cho	
4/26/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
5/5/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Kyle Bell	
5/6/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
6/24/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Delete Brandon Ritchey, NuStar Logistics, LP	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jim Roberts	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Buddy Stubblefield	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Ana Bertolucci	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Rena Swafford	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Jennifer Polk	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Kirubhakaran Vyravan	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Stephan Rosen	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Onsite Response Personnel | Update Aaron Flett	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Aaron Flett	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Shawnna Poor, NuStar Logistics, L.P	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Larry Thompson	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tricia Dietrich Petty, NuStar Logistics, L.P.	

FIGURE 14 - RECORD OF CHANGES, CONTINUED

DATE OF CHANGE	DESCRIPTION OF CHANGE	PAGE NUMBER
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
6/25/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Mike Dillinger	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Buddy Stubblefield	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Rena Swafford	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Terry Schulte	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Ana Bertolucci	
9/16/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Stephan Rosen	
12/29/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Tresmon Smith	
12/29/2022	Dock Ops | Table of Contents | Figure 5 - Notifications and Telephone Numbers | Offsite Response Personnel | Update Walter Thompson	

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