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September 26, 2023
Project No. M1016.01.008

Robert A. Hood, Jr.
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Response to the Oregon Department of Environmental Quality Comments on the April 17, 2023, Evaluation of Ammonia Concentrations in the RM2E Project Area

Dear Robert Hood:

Maul Foster & Alongi, Inc. (MFA), prepared this letter on behalf of J.R. Simplot Company (Simplot) in response to comments from the Oregon Department of Environmental Quality (DEQ) received by email on June 20, 2023, on the subject document. The DEQ comments are present below in italics followed by MFA's response in bullets.

Comment 1*: Please complete two monitoring events, during time periods that represent low- and high-water elevations, from the monitoring wells and analyze the samples for ammonia. While ammonia isn't a Table 17 listed contaminant of concern (COC) in U.S. Environmental Protection Agency's (EPA's) Record of Decision, it is a Table 16 COC and does pose a risk to benthic invertebrates at the concentrations that have been observed in the sediment in the vicinity of the dock.*

- Response: MFA acknowledges DEQ's request to perform groundwater sampling for ammonia at the site, however we are requesting additional information from DEQ prior to potential implementation of this work. MFA's request is based on the following considerations:
  - As presented in MFA's draft SCE report (MFA 2023a), and based on Evraz's seepage meter study for the river mile 2 east (RM 2E) project area (Integral 2023), there is minimal groundwater flux from the Simplot site to the Willamette River and therefore the groundwater pathway is not significant.
  - Per MFA's ammonia evaluation memorandum (MFA 2023b), there are no screening criteria established for groundwater that are applicable to aquatic and benthic organisms. Further, groundwater samples are not indicative of surface water conditions in which aquatic organisms would be exposed.
  - Elevated ammonia concentrations in sediment are observed throughout Portland Harbor, with the highest concentrations upstream of the RM2E project area (MFA 2023b). Further, there are no screening criteria for ammonia in sediments (federal, state, or Portland Harbor specific), with the exception of criteria that are not risk-based criteria but rather are intended to inform bioassay testing considerations for bulk sediments under evaluation for suitability for unconfined aquatic disposal. These criteria should not be used to trigger remedial action or implementation of source control measures.

  MFA understands from our August 21, 2023 teleconference with DEQ that a potential weight-of-evidence evaluation for the requested groundwater sampling may include a comparison of the


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riverbank wells to the upgradient wells on the site. This would potentially establish that any ammonia concentrations observed in groundwater at the site could be considered background. However, this data would still not be associated with any regulatory criteria, and MFA has concerns about the use and implications of the data. Therefore, Simplot and MFA would like to request that DEQ outline the specific end goal and application for this evaluation. In particular, we would like clarification on how DEQ is going to evaluate the proposed collected groundwater data in the absence of established screening criteria for ammonia. Lastly, MFA requests clarification as to whether DEQ is going to request similar sampling from other sites where elevated concentrations of ammonia are observed in adjacent sediments. If ammonia is a concern for DEQ, there are other sources or areas of concern that should also be investigated.

Comment 2*: Please provide to DEQ and EPA a copy of your best management practices for the dock area and for unloading urea.*

- **Response**: Simplot's Standard Operating Procedure for urea unloading is provided as an attachment to this letter.

Comment 3*: DEQ and EPA would like to visit the site on a day when urea is being delivered to observe the best management practices used during product offloading.*

- **Response**: MFA and Simplot are currently in communication with DEQ to coordinate a site visit to observe urea offloading when the next ship arrives at the site (currently expected the week of October 10, 2023).

Comment 4*: DEQ is still in the process of reviewing your SCE [source control evaluation], in addition to comments received from the EPA and The Tribes and will reply separately on that.*

- **Response**: This comment has been noted.

Sincerely,

Maul Foster & Alongi, Inc.

Dana Domenighini
Project Environmental Scientist

Jessica Glenn
Senior Environmental Scientist

## Attachments

References

A—Simplot Operating Procedure: Urea Ship Unloading

cc: David Lacey, DEQ
Mike Romero, DEQ
Monty Johnson, J.R. Simplot Company
Ryan McLane, J.R. Simplot Company


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# References

Integral. 2023. *Pre-Design Investigation Evaluation Report, River Mile 2 East Project Area, Portland Harbor Superfund Site*. Prepared for EVRAZ Inc. NA. Integral Consulting, Inc. : Portland, OR. March 10.

MFA. 2023a. *Draft Source Control Evaluation Report, J.R. Simplot Company Rivergate Terminal, Portland, Oregon.* Prepared for J.R. Simplot Company. Maul Foster & Alongi, Inc.: Portland, OR. January 24.

MFA. 2023b. J. Glenn and P. Wiescher, Maul Foster & Alongi, Inc. *RE: Evaluation of Ammonia Concentrations in the RM2E Project Area.* Letter to R. Hood, Jr., Oregon Department of Environmental Quality. April 17.


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# Attachment A

## Simplot Operating Procedure: Urea Ship Unloading

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# OPERATING PROCEDURE
# UREA SHIP UNLOADING
# RG0104-5-060410

## PURPOSE:

To provide operating personnel with step-by-step instructions on how to safely unload Urea ships.

## REQUIREMENTS:

- One Operator filling the P.I.C. role
- One Shore side crane Operator
- Three Ship side crane operators
- Supervisor assigned personnel to fill manpower requirements.
- Any Operator qualified to perform this procedure can terminate it.
- Following an emergency, involving a reportable spill into the river, significant equipment damage or other than minor personnel injury only the Terminal Manager or Supervisor may determine when it is safe to resume or restart the procedure.
- Surveyor- set up by Terminal Supervisor. PIC to update surveyor as instructed.

**NOTE:** Maintenance operator and/or crane operator can be filled by the P.I.C.

## REQUIRED DOCUMENTS:

- Ladder inspection form R-69
- Mobile Equipment inspection forms M-762d
- PIC Duties
- PIC Guideline
- Facility / Crane operators pre-lift meeting checklist R-77
- Urea ship safety checklist R-76
- Pre-Arrival Inspection Form Completed R-18
- Crane Inspection Form R-05

## TOOLS AND EQUIPMENT:

- Portable conveyors, power, cords, transition conveyor and hoppers.
- Grabs.
- Excavators.
- Dunnage, chains, wire rope slings, binders, wheelbarrows, brooms, shovels.

## SAFETY, HEALTH, & ENVIRONMENT:

| PPE | Hazards | Environmental Considerations |
|---|---|---|
| Hard hat<br>Safety Toe Footwear<br>Safety Glasses | Slips ,Trips and Falls<br>Suspended Loads | Water (effluent) |

### EMERGENCY OPERATIONS

If an emergency occurs while this procedure is performed, and it is safe to do so, this procedure will be shut down using the normal shutdown procedure as described within this SOP. Startup of this procedure following a normal shutdown during an emergency will be performed normally using this SOP.

Following termination of any emergencies within the urea storage and transfer system, any procedure that was shutdown using other than normal shutdown procedures will be thoroughly inspected prior to startup to ensure a normal startup can be performed safely.

**NOTE:** During all marine transfer operations, berthing and cast-off, safety ladder barricades will be unlocked and left in the open position until such marine operations are completed. Upon completion of operations close and lock.

## TASKS

**1. SETUP**

**2. UNLOAD UREA SHIP**

**3. CLEANUP**

**NOTE:** Numbered items ***MUST*** be completed in order. Items listed with bullets may be completed randomly as long as ***ALL*** items are completed prior to moving to next numbered item.

**SETUP:**

1.1 The ship is on spot and secure using ship tie up procedure (same as for NH3 ship). Only trained personnel are to be used for mooring operations.

1.2 The gangway and safety net are in place.

- Immigration has given the ok for facility personnel to board.
- Ship's survey is complete.
- Facility personnel and crane operators conduct pre-lift meeting and complete checklist R-77.

**NOTE:** The PIC will determine the sequence of lifts. Some equipment, dunnage and materials can be lifted anytime a crane is available, at the PIC's discretion. Once Immigration has given the OK for facility personnel to board the ship, the survey is complete and the ship's mate has given approval the PIC can direct personnel to begin loading dunnage, gang boxes, tools, etc. onto the vessel. These must be hand carried or delivered by the dock crane. The ship's crane can't be used until the completion of the 'Facility Personnel/Ship's Crane Operator Pre Lift Meeting'. The PIC will use the dunnage guidelines to protect the vessel and assure that the proper rigging is used for lifts. Shackle pins are to be wired in place. A qualified rigger (from the list) is required for set up of all lifts. Use sufficient tag lines to control the lift and to keep personnel out from underneath the suspended load. The PIC is the only person to authorize starting the transfer of equipment to the ship.

1.3 Set dunnage on deck for the #1 transition conveyor. Place #1 transition belt, 3 to 3 ½ feet back from ship's rail on dunnage. Secure four corners to ship using wire rope slings, shackles, lashing chain and chain binders.

1.4 Set #1 hopper on transition belt frame base. Once the hopper is set on the base, personnel may move in and install a minimum of two bolts for each hopper leg. Install a ladder to the hopper access platform and secure in place. Secure the four corners of the hopper to the ship using wire rope slings, shackles, lashing chain and chain binders. The crane hook can now be disconnected from the hopper.

1.5 If this is a multiple hopper discharge set the #1 portable conveyor on deck as close to #1 hopper as practical, putting plywood on the deck

under the tail skid. Remove slings from tail end. Lift conveyor drive end to proper height and attach com-a-long to tail end and pull the portable conveyor until it docks with the hopper shoe supports. Setup dunnage underneath tail end of conveyor and axles as needed for support and angle adjustment. Remove crane rigging and secure conveyor to #1 hopper with chains and binders so that the tail end does not slide on the deck. This should be loose enough to allow the conveyor to move with #1 hopper. Setup remaining conveyors in succession from #1 hopper to #2 hopper.

1.6 Setup dunnage on deck for #2 hopper so the hopper chute will sit above the belt of the last conveyor. Install portable conveyor receiving hopper. Use the tag lines until the hopper is 6”above the dunnage, at this point personnel may move in and position the hopper as its lowered the last 6”. Secure four corners to ship using wire rope slings, shackles, lashing chain and chain binders. Install ladder to hopper access platform and secure in place. At this point the crane hook can be removed from the hopper.

1.7 The PIC will ensure the following are completed prior to starting discharge.

- # 1 portable conveyor is secured.
- Air supplies are connected to hopper slide gates, and functioning. Test slide gate proper operation.(Open, and close also visually verify gate position).
- Portable conveyors are covered at all times; with openings only at the transition points for operator visibility.
- All power cords are connected to conveyors, and conveyors are functioning, and tracking properly.
- Ensure the # 2 hopper chute extends below the lip of the portable conveyor hopper and rests on the pins.
- Hoppers are secured to the ship in at least 8 locations.
- A minimum of 6 bolts per hopper leg are installed on hopper base.
- 2”x 4” wedges are driven between the dunnage and the transition belt frame, and the # 2 hopper frame to distribute the weight on deck.
- The telescoping chute is installed on the # 1 belt (Ship to shore transition belt), the chute is aligned with hopper on # 2 belt to minimize chance of spillage. Secure transition belt chute to # 2 conveyor hopper using a maximum ¼” rope to maintain correct

angle of chute. The #2 shore side belt should be at an elevation such that the chute does not extend too far down in the hopper.

- The inspection door on the transition conveyor is open.
- Assessment has been made for urea spill containment and dust control and appropriate actions taken. Actions include the enclosing of offload conveyors, hoppers are cleaned out during rain delays, spill/drip pans in place under the ship-to-shore conveyor, boards along the dock side of the ship where hoppers are moving product, the clamshell grabs are opened as close to and inside each hopper as possible when unloading product to minimize product dropping out of hopper and to limit fall distance of the product to prevent dust kicked up in process, and sweeping is continued throughout the day to keep the deck of the ship clean.
- Chains, cables, etc. in the walkways are 'flagged' for visibility.

## 2. UREA SHIP UNLOADING

2.1 PIC Ensure:

- Hoppers and conveyor setup is complete, secure and are aligned with safety being the priority.
- All equipment is secure (excavators etc..).
- Notify ships personnel to open the product hold(s).

2.2 *One hopper discharge*

- Start shore belt and transition conveyor.
- Test emergency stops and interlocks.

2.3 *Multiple Hopper Discharge*

- Start shore belt, transition conveyor and portable conveyors.
- Test electrical interlocks and ensure all conveyors are shut down.
- Restart portable conveyors and test all emergency stops starting at conveyor farthest from the transition conveyor. Ensure warning horns activate on startup.

2.4 If any conveyors fail to shut down they must be repaired prior to starting product discharge.

2.5 *Restart* all conveyors

- Ensure all conveyors are running.

2.6 Once emergency stops and electrical interlocks are confirmed:

- Ensure all belts are running, all personnel are at their stations and the slide gates are closed for the hoppers. The P.I.C will notify the hopper operators and crane operator(s) to start

discharge. After the first grab is discharged into the hopper, the operators monitoring the hoppers will slowly open the slide gates to start product flowing onto the belts.

2.7 An operator is to be assigned to the #2 on deck hopper at all times. If this operator is to be relieved the P.I.C. will designate the replacement. Relief will be made at the hopper.

2.7.1 Responsibilities of the person assigned to # 2 hopper.

- Effort should be made to avoid on-deck spillage. Any spillage is swept up throughout the day to limit accumulation.
- The level in the hopper is kept below the top edge and monitored for plugging.
- Control the position of the hopper slide gate to optimize product flow without over flowing the belts.

**NOTE:** The slide gate requires close monitoring for plugging in case of lumpy product.

- Monitor first portable conveyor belt to ensure the belt is tracking correctly and spillage to the deck is minimized.
- Ensure product spillage on deck is cleaned up frequently to minimize slipping hazards. “Frequent” means sweeping occurs every hour, if not more often.
- Inform the P.I.C. of any problems or unusual situations.
- Check tie-downs for hoppers to ensure tightness. Tighten as needed.

2.7.2 Responsibilities of the Crane Operator.

- The grab is centered and low over the hopper before it is opened.
- Visually monitor ship’s grabs and lines for twisting, fraying or other obvious problems.

2.8 An operator is to be assigned to monitor the #1 on deck hopper and ship to shore transition belt at all times. If this operator is to be relieved the Stevedore P.I.C. will designate the replacement. Relief will be made at the hopper.

2.8.1 Responsibilities of the person assigned to the #1 hopper and transition belt:

- On deck spillage is kept to a minimum.
- The level in the hopper is kept below the top edge and monitored for plugging.
- Control the position of the hopper slide gate to optimize product flow without overflowing the belts.

**NOTE:** The slide gate requires close monitoring due to varying product flow from the # 2 hopper as well as possible plugging due to lumps.

- Ensure product spillage on deck is cleaned up frequently to minimize slipping hazards.
- Inform the P.I.C. of any problems or unusual situations.
- Monitor # 1 conveyor dumping into # 2 shore conveyor to assure spout is positioned correctly, adjust # 2 conveyor or chute to maintain optimum position.
- Check tie-downs for hopper for tightness. Tighten as needed.

2.8.2 Responsibilities of the Crane Operator.

- The grab is centered and low over the hopper before its opened.
- Visually monitor grabs and lines for twisting, fraying or other obvious problems.
- Inspection Form must be completed prior to start of each shift.

2.9 Starting trackhoe operation in product hold

**NOTE:** Prior to entering product hold for the first time the ships mate will ensure the hold is safe to enter. The PIC will have an O2 check done prior to entry.

2.9.1 Stevedore crew signals and notifies ships crane operator to prepare crane to lift trackhoe into product hold.

2.9.2 Lift trackhoe into product hold.

2.10 Trackhoe operator is to enter hold and complete an equipment inspection form.

2.10.1 The trackhoe operator is to begin moving product away from the sides of the hold keeping clear of the grab.

2.10.2 Upon reaching the bottom of the hold, scrape the product from the edges to the center until the pile is small enough to be swept with a broom.

2.10.3 When finished with the trackhoe park it off to the side.

2.11 Throughout the offload the P.I.C. will monitor that stevedore crew are cleaning the product off of the walls of the hold using pikepoles, scrapers, brooms, etc. The PIC will check with the ship's mate at regular intervals to ensure cleaning is satisfactory.

2.11.1 Upon reaching the bottom of the hold the assigned personnel will sweep the product left from the trackhoe operator into a pile in the center, and shovel it into the grab as needed.

2.12 When the product hold clean up is complete the P.I.C. notifies the ships crane operator to setup to lift the trackhoe out of the hold.

2.13 Upon completion of the hold the person assigned to monitor the hopper is to empty out the hopper and to run out the belts.

- PIC will have stevedore P. I. C. assign Personnel to go to the top of the hopper and clean it out, knocking the lumps and remaining product through.

2.13.2 When all the product has been run off the belts notify the P.I.C. so the belts can be shut down.

2.14 Lift the trackhoe out of the hold.

2.15 The P.I.C. will notify the ship's mate to close the doors to the hold when he has confirmed that tools, equipment, and personnel are out of the hold, and the ship's mate has accepted the hold as cleaned.

2.16 If the ship offload is complete refer to cleanup.

2.17 If there is another hold that needs off loading # 2 hopper and portable conveyors will need to be moved. Clean excess product from equipment before moving.

2.18 To setup conveyors to offload another product hold the PIC will ensure the offloading process from the # 1 hopper has been stopped. The power is off and disconnected from the portable conveyors. All lashing chains, binders, and wire ropes are removed. The air supply has been disconnected from # 2 hopper slide gate.

**NOTE:** The PIC will determine the sequence of lifts. Some equipment, and materials can be lifted anytime a crane is available at the PIC's discretion. The PIC will assure that the proper rigging is used for lifts. Shackle pins are to be wired in place. A qualified rigger (from the list) is required for set up of all lifts. Use sufficient tag lines to control the lift and to keep personnel out from underneath the suspended load.

2.18.1 Lift the # 2 hopper and set it on dunnage on the hatch covers of one of the closed product holds. Stage conveyors as needed to re-setup the portable conveyors to off load another product hold. Set the # 1 portable conveyor on deck as close to # 1 hopper as practical, putting plywood on deck under the tailskid. Remove slings from tail end. Lift conveyor drive end to proper height and attach a com-a-long to tail end and pull the portable conveyor until it docks with the hopper shoe supports. Setup dunnage underneath tail end of conveyor as needed for angle adjustment. Remove crane rigging and secure conveyor to #1 hopper with chains and binders at two points. Setup remaining conveyors in succession from #1 hopper to #2 hopper.

2.18.2 Setup dunnage on deck for #2 hopper so the hopper will sit above the drop of the last conveyor. Use the tag lines until the hopper is 6”above the dunnage, at this point personnel may move in and position the hopper as its lowered the last 6”. Secure four corners to ship using wire rope slings, shackles, lashing chain and chain binders. Install ladder to access platform and secure in place. At this point the crane hook can be removed from the hopper.

2.18.3 The PIC will ensure the following are completed prior to restarting discharge:

- # 1 portable conveyor is secured to the ship.
- Air supplies are connected to hopper slide gates, and functioning. Test slide gates proper operation(Open, and close also visually verify gate position).
- Portable conveyors are covered as needed.
- All power cords are connected to conveyors, and are functioning, and tracking properly.
- Ensure the # 2 hopper chute extends below the lip of the portable conveyor hopper and rests on the belt hopper pins.
- Hoppers are secured to the ship in at least 8 locations.
- All bolts are installed in # 1 hopper base.
- 2”x 4” wedges are driven between the dunnage and the transition belt frame, and the # 2 hopper frame to distribute the weight on deck.
- # 1 belt (Ship to shore transition belt) chute is aligned with hopper on # 2 belt to minimize chance of spillage and secure transition belt to # 2 conveyor hopper using a com-a-long and maximum ¼” rope to maintain correct angle of chute. This should be a break-away connection in the event the ship is pulled away from the dock. The #2 shore side belt should be kept at an elevation such that the chute does not extend too far down into the hopper.
- Assessment has been made for spill containment and dust control and appropriate measures taken.

2.18.4 PIC is to restart offload beginning at step 2.2

2.19 *Normal shutdown*

- The PIC will instruct the operators to shut down. If it is raining or is threatening to rain, the PIC will notify the ship’s mate to close the product hatches. If personnel are in product holds the PIC

will ensure excavators are shut down and secured and all personnel have exited the hold prior to starting to close the hatch covers. For rain and high wind shut downs the operator will consult with the PIC for the need to install tarps, check urea buildup points, etc. before leaving the marine transfer area.

- The operator will run the product out of the hopper and check the hopper for plugging. If necessary the hopper grating will be cleaned. When the hopper is empty the operator will close the slide gate.

- The operator will run all product off of the belts (including shore side belts) prior to shutting them down. If the product can't be run out of the hoppers and off all belts the operator will consult with the PIC on the need to tarp hoppers, etc.

**NOTE:** If the product holds remain open the excavator may continue moving product away from the sides and the laborers may continue to clean the sides of the holds.

- During normal shutdown, that lasts longer than 15 minutes, the PIC will inspect the area for the need to clean-up product on deck, check urea buildup points and perform housekeeping or gear stowage duties. If the product holds are left open the PIC will assess the need to refuel the excavators.
- To restart product discharge after normal shutdown the PIC will begin the offload sequence starting at Step 2.2.

2.20 *Emergency Shutdown*- Any Simplot operator may initiate emergency shutdown and must immediately notify the PIC. This emergency shutdown procedure will be used whenever:

- There is more than incidental product associated with normal offload procedures falling off of the belts onto the deck.
- Product spilling into the water, other than incidental amounts normally associated with offloading. "Incidental amounts" refers to very light dusting due to wind (etc.) causing it to blow from the ship's deck.
- Equipment failure that could result in either of the above two scenarios.
- Equipment damage, other than minor such as paint scrapes etc., to the ship, cranes, excavators, hoppers or conveyors. In the event that the grab strikes the hoppers or the ship moves enough to cause a collision with the shore side equipment a careful inspection should be done for damage.
- A high potential near miss.
- Personnel injury where continuing the discharge would add risk of further injury or that would delay treatment of other than a minor injury.
- Any other unsafe condition that the PIC decides warrants immediate shutdown.

If the incident was a release to water the PIC will follow the reporting guidelines immediately. When in doubt if the actual amount spilled into the water is reportable, REPORT IT!

The PIC will then notify the Terminal Manager or Supervisor (at home at night) if the incident resulted in a reportable release to the water, significant equipment damage or other than a minor personnel injury. The Terminal Manager or Supervisor will make any further calls to Simplot management.

If the reason for shutdown is related to product spillage, other than from overfilling the hopper, the operator will immediately close the slide gate and shutdown the belts to minimize the problem. The hopper operator will immediately notify the PIC and crane operators.

If the reason for shutdown is spillage from overfilling the hopper will immediately notify the crane operator to stop discharging. The operator will run the product out of the hopper and off of the belts to minimize spillage.

If the reason for shutdown was caused by an action of the crane operator, the PIC will counsel the crane operator. In the event of a repeat incident with the same crane operator the PIC will remove the crane operator.

If the hopper overfilling did not result in spillage and is due to the chute or grizzly plugging off, the PIC will ensure it is cleaned and emptied prior to restarting the discharge.

**NOTE:** The PIC will determine if the reason for shut down requires an incident investigation. If it does, the Accident/Incident Investigation Procedure will be followed. In the event that an A/I Investigation is required the PIC will see that the area is secured as soon as possible.

Prior to restarting product discharge the PIC will ensure the following have occurred:

Equipment problems associated with the shutdown have been corrected.

If there is spillage on the deck of the ship or dock structure as a result of the incident it has been cleaned up.

The Terminal Manager or Supervisor have agreed that product discharge can restart.

**NOTE:** The shore side and onboard equipment may be restarted to aid in cleaning up spillage, provided that any needed repairs have been made that may have contributed to the problem.

In the event that an Accident/incident Investigation was required, the preliminary report has been completed using the A/I Investigation Procedure and the “Immediate Actions to Prevent Recurrence” have been taken. Be sure to take necessary photographs, conduct interviews with those involved, take critical measurements, etc.

To restart product discharge the PIC will begin the offload sequence at Step 2.2.

2.21 Refueling Excavators- The excavator operators are to monitor the fuel in the machines they are using and keep the PIC apprised of the levels when they are below a half a tank. The PIC will look for opportunities to refuel the excavators that don’t require product discharge to be shut down.

**WARNING:** Any spillage of diesel into the river that produces a visible sheen requires immediate notification of the NRC and the local Coast Guard. Use the ‘On Scene management Guide’, Agency Notification form M-153-R. All precautions need to be taken to ensure no spillage occurs. Precautions include maintaining tightly-sealed, approved safety fuel cans/jugs and hand-carrying them within enclosed walkways onto the ship.

3.CLEANUP

*One hopper off load*

3.1 The PIC will ensure all of the product has been run off the # 1 transition belt as well as the shore conveyors. The hopper has been cleaned by brushing/scraping out the loose urea left in the hoppers down onto the running transition belt. The power is then turned off and disconnected from the transition belt. All lashing chains, binders, and wire ropes except 4 slings from the corners of the hopper are removed. Air supply has been disconnected from slide gate, and chute has been removed. The # 2 belt receiving hopper is cleaned prior to belt shut down. If hoses are to remain attached to hoppers, secure them so the small slide gate positioner connections aren’t broken if the hose gets pulled.

**NOTE:** Cleaning also entails rinsing equipment (at offload completion) with water within the confines of the holds (or enclosed cargo areas). The water used to rinse is contained/stored on the ship and does not enter the river system. Additionally, sweeps are used and collected product is recycled, rain delays are also possible and provide additional opportunities to clean equipment.

3.2 A minimum of two bolts and one wire sling per hopper leg must remain to secure the hopper until the crane hook is attached. After the crane is hooked to lift slings remove ladder from hopper access platform.

3.3 Unbolt hopper from transition belt base.

**NOTE:** The PIC will determine the sequence of lifts. Some equipment, and materials can be lifted anytime a crane is available at the PICs discretion. The PIC will assure that the proper rigging is used for lifts. Shackle pins are to be wired in place. A qualified rigger (from the list) is required for set up of all lifts. Use sufficient tag lines to control the lift and to keep personnel out from underneath the suspended load.

3.4 Lift #1 hopper, and transition belt assembly separately, and set them on the main dock.

3.5 Remove all tool dunnage, chains wire ropes etc…

*Multiple hopper off load*

3.6 The PIC will ensure all the product has been run off the portable conveyors and the transition belt as well as the shore conveyors. The hoppers have been cleaned. Power is off and disconnected from the portable conveyors, and the transition belt. All lashing chains, binders, and wire rope except 4 slings from the corners of the hopper are removed. The air supply has been disconnected from the slide gates.

3.7 A minimum of one wire sling per hopper leg must remain to secure the hoppers until the crane hook is attached. After the crane is hooked to lift slings remove ladder from hopper access platform.

**NOTE:** The PIC will determine the sequence of lifts. Some equipment, and materials can be lifted anytime a crane is available at the PIC's discretion. The PIC will assure that the proper rigging is used for lifts. Shackle pins are to be wired in place. A qualified rigger (from the list) is required for set up of all lifts. Use sufficient tag lines to control the lift and to keep personnel out from underneath the suspended load.

3.8 Lift the # 2 hopper and set it over on the dolphin # 5.5 N. Ensure hopper is placed far enough toward shore to be out of the path of the walkway.

3.9 Set 1 grab on same dolphin in storage cradle.

3.10 Lift off the portable conveyors.

3.11 Unbolt # 1 hopper from transition belt base.

3.12 Lift #1 hopper, transition belt assembly, and 1 grab separately, and set it on the main dock.

3.13 PIC will ensure all tools, dunnage, chains, wire ropes etc…have been removed and the ship's deck has been cleaned and swept and any modifications and or damage is repaired and has been given the Ok by the ship's mate, the PIC will notify the mate we are ready for cast off. Ensure a survey has been completed and the pilot is onboard before removing the gangway. When requested by the ship the shore crane operator will remove the gangway. The ship tie up procedure will be used to release the vessel.

3.14 Dock cleanup

3.14.1 During the cleanup process the excavators, pay loader and portable conveyors are moved off the dock as they are lifted off the ship. The # 1 hopper and the ship to shore conveyor are left on the main dock. The # 2 hopper is left on # 5.5 N dolphin. The lifting gear, tie down gear and all the rest of the tools and equipment are stored neatly in the storage container. Dunnage is neatly stacked north of the green building. The excavators are cleaned, fueled and parked out of the way. The conveyors are parked in the field on west side of # 1 warehouse. Ensure excess urea is cleaned up and the dock is left in good housekeeping order. The dock crane is secured. The gangway is off the dock.

## SAFETY SYSTEMS

- Emergency shutdowns on belts
- Zero speed on belts
- Starting belt alarms
- Fire extinguisher
- Interlock on belts