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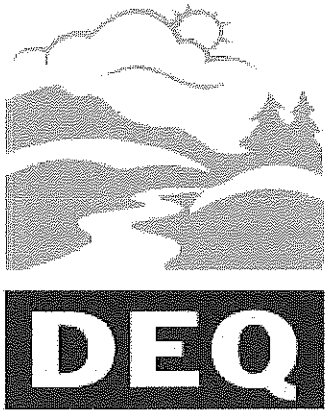
Part 2 of 2

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS 01/30/2003



State of Oregon
Department of Environmental Quality

Amended January 27, 2003

Oregon Environmental Quality Commission Meeting
January 30-31, 2003

Oregon Department of Environmental Quality (DEQ)
Headquarters Building, Room 3A
811 SW Sixth Avenue, Portland, Oregon

Thursday, January 30, 2003 Beginning at 2:00 p.m.

A. Contested Case No. WPM/T-NWR-00-164 regarding Jackson & Son Distributors, Inc., dba Jackson & Son Oil, Inc.
The Commission will consider a contested case between DEQ and Jackson & Son, Inc., doing business as Jackson & Son Oil, Inc. The Department appealed a hearing officer's April 2002, proposed order finding that Jackson & Son was not required to comply with the Department's rules and regulations regarding underground storage tanks (UST) because the tank in question did not meet the definition of an UST. The Commission will hear arguments from both parties on the case.

B. Rule Adoption: Amendments to Lane County Regional Air Pollution Authority Rules
The Lane County Regional Air Pollution Authority (LRAPA) has the authority to adopt and implement air quality rules for Lane County. Prior to enforcing new rules, however, LRAPA is required by state law to submit the rules to the Commission for approval. Andy Ginsburg, DEQ Air Quality Division Administrator, and Brian Jennison, LRAPA Director, will present a number of LRAPA rules to the Commission for approval at this meeting.

C. Informational Item: Update on Status of the Umatilla Chemical Agent Disposal Facility
Dennis Murphey, DEQ Chemical Demilitarization Program Administrator, will update the Commission on the Umatilla Chemical Agent Disposal Facility, including the status of trial burns, the progress of a permit modification for the facility, and the schedule for facility operation.

Friday, January 31, 2003 Beginning at 8:30 a.m.

At approximately 8:00 a.m., the Commission will hold an executive session to consult with counsel concerning legal rights and duties regarding current and potential litigation against the Department. Executive session is held pursuant to ORS 192.660(1)(h). Only representatives of the media may attend, and media representatives may not report on any deliberations during the session.

David Van't Hof, Governor Kulongoski's Natural Resources Advisor, will join the Commission for lunch on Friday to introduce himself and talk with the Commission about their work.

D. Approval of Minutes
The Commission will review, amend if necessary, and approve draft minutes of the December 12-13, 2002, and the December 30, 2002, Environmental Quality Commission meetings.

E. Report on Commission Appraisal of Director's Performance
The Commission will complete an appraisal of Director Stephanie Hallock's performance for the two-year period since she was hired as DEQ Director in November 2000. The Commission began

the performance appraisal process in the fall of 2002, based on standards and criteria adopted in January 2002. At this meeting, the Commission will present a summary of the appraisal results for public release.

F. Director's Dialogue
Stephanie Hallock, DEQ Director, will discuss current events and issues involving the Department and state with the Commission.

G. Action Item: Determination on Findings Associated with the Wastewater Discharge Permit for the Port Westward Energy Facilities Project
The Commission will act on anti-degradation findings recommended by the Department for a proposed new major wastewater discharge permit for the Port Westward Energy Facilities Project. This project would include construction of two natural gas fired power plants and one ethanol production plant on land owned by the Port of St. Helens adjacent to the Columbia River near Clatskanie. In early 2002, the Port applied to DEQ for a permit to collect and discharge treated wastewater from the new facilities to the Columbia River. At this meeting, Neil Mullane, DEQ Northwest Region Administrator, and Bob Baumgartner, Northwest Region Water Quality Permit Manager, will present information to the Commission on the impact of this project on Columbia River water quality to enable the Commission's decision on the anti-degradation findings.

H. Rule Adoption: Underground Storage Tank Compliance Rule Revisions
Nearly 70 percent of facilities inspected by the Department do not meet underground storage tank (UST) release detection requirements. To increase compliance and protect human health and the environment, the 2001 Legislature amended Oregon's laws governing USTs, which have been in place since 1988. The amendments require the Commission to adopt rules to implement a mandatory training program for all UST system operators and a pilot program to expedite enforcement of UST compliance violations. At this meeting, Dick Pedersen, DEQ Land Quality Division Administrator, will propose rules for Commission adoption to carry out the legislative directive.

I. Rule Adoption: National Air Quality Emission Standards for Hazardous Pollutants and New Source Performance Standards
Over the last two years, the Environmental Protection Agency (EPA) updated New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) for facilities that are major sources of air pollution in the United States. At this meeting, Andy Ginsburg, DEQ Air Quality Division Administrator, will propose amendments to Oregon's NSPS and NESHAP rules to maintain consistency with the federal standards. The rules also clarify compliance deadlines and incorporate EPA changes to Maximum Achievable Control Technology standards.

J. Informational Item: Presentation of Forest Practices Act Sufficiency Analysis
Mike Llewelyn, DEQ Water Quality Division Administrator, and a representative of the Oregon Department of Forestry, will present the results of a three-year collaborative initiative to evaluate the effectiveness of the Forest Practices Act (FPA) in achieving water quality standards on state and private forest lands. The study evaluated the effect of forest management practices, as prescribed by the FPA, on stream temperature, sediment levels, turbidity, aquatic habitats and aquatic organisms, with particular focus on the impacts of tree harvesting, road-building and road maintenance activities. The report, issued in November 2002, contains twelve recommendations to strengthen the FPA that ODF intends to pursue in 2003 as rule revisions.

K. Commissioners' Reports

Adjourn

Agenda Notes

*Hearings have been held on Rule Adoption items and public comment periods have closed. In accordance with ORS 183.335(13), no comments may be presented by any party to either the Commission or Department on these items at any time during this meeting.

Copies of staff reports for individual agenda items are available by contacting Emma Snodgrass in the Director's Office of the Department of Environmental Quality, 811 SW Sixth Avenue, Portland, Oregon 97204; telephone 503-229-5990, toll-free 1-800-452-4011 extension 5990, or 503-229-6993 (TTY). Please specify the agenda item letter when requesting reports. If special physical, language or other accommodations are needed for this meeting, please advise Emma Snodgrass as soon as possible, but at least 48 hours in advance of the meeting.

Public Forum: The Commission will break the meeting at approximately 11:30 a.m. on Friday, January 31, to provide members of the public an opportunity to speak to the Commission on environmental issues not part of the agenda for this meeting. Individuals wishing to speak to the Commission must sign a request form at the meeting and limit presentations to five minutes. The Commission may discontinue public forum after a reasonable time if a large number of speakers wish to appear. In accordance with ORS 183.335(13), no comments may be presented on Rule Adoption items for which public comment periods have closed.

Note: Because of the uncertain length of time needed for each agenda item, the Commission may hear any item at any time during the meeting. If a specific time is indicated for an agenda item, an effort will be made to consider that item as close to that time as possible. However, scheduled times may be modified if participants agree. Those wishing to hear discussion of an item should arrive at the beginning of the meeting to avoid missing the item.

Environmental Quality Commission Meetings in 2003 include:
January 30-31, March 20-21, May 8-9, June 26-27, August 14-15, October 9-10, December 4-5

Environmental Quality Commission Members

The Environmental Quality Commission is a five-member, all volunteer, citizen panel appointed by the governor for four-year terms to serve as DEQ's policy and rule-making board. Members are eligible for reappointment but may not serve more than two consecutive terms.

Mark Reeve, Chair
Mark Reeve is an attorney with Reeve Kearns in Portland. He received his A.B. at Harvard University and his J.D. at the University of Washington. Commissioner Reeve was appointed to the EQC in 1997 and reappointed for a second term in 2001. He became Chair of the EQC in 2003. Commissioner Reeve also serves as Co-Chair of the Oregon Watershed Enhancement Board.

Tony Van Vliet, Vice Chair
Tony Van Vliet received his B.S. and M.S. in Forest Production at Oregon State University. He has a Ph.D. from Michigan State University in Wood Industry Management. Commissioner Van Vliet served sixteen years as a member of the Public Lands Advisory Committee, has been a member of the Workforce Quality Council, served sixteen years as a State Representative on the Legislative Joint Ways and Means Committee, and served eighteen years on the Legislative Emergency Board. He currently resides in Corvallis. Commissioner Van Vliet was appointed to the EQC in 1995 and reappointed for an additional term in 1999.

Harvey Bennett, Commissioner
Harvey Bennett is a retired educator. He has taught and administered at all levels of education, concluding as president emeritus of Rogue Community College. Commissioner Bennett has a B.S., M. Ed. and Ph.D. from the University of Oregon. Commissioner Bennett was appointed to the EQC in 1999 and he currently resides in Grants Pass.

Deirdre Malarkey, Commissioner
Deirdre Malarkey is a graduate of Reed college, with graduate degrees from the University of Oregon. She has served previously on two state natural resource boards and on the Water Resources Commission and retired as a land use planner. Commissioner Malarkey was appointed to the EQC in 1999 and lives in Eugene.

Vacant, fifth Commission position

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State of Oregon

Department of Environmental Quality Memorandum

Date: January 9, 2003

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item B, Rule Adoption: LRAPA Title 49, Nuisance Rules; Amendments to Title 32, Emission Standards; Title 48, Fugitive Emissions; Title 50, Ambient Air Standards, and Title 12 Definitions
January 30-31, 2003 EQC Meeting

Department Recommendation

The Department recommends that the Environmental Quality Commission (EQC, Commission)

1. Approve Lane County Regional Air Pollution Authority's (LRAPA):
   - Title 12 Definitions
   - Title 32 Emission Standards
   - Title 48 Fugitive Emissions
   - Title 49 Nuisance Rules
   - Title 50 Ambient Air Standards
2. Amend 340-200-0040 to adopt LRAPA's Title 12, Title 32, and Title 50 rules as amendments to Oregon's State Implementation Plan (SIP). These proposed SIP amendments are presented in Attachments A and B.

Need for Rulemaking

The requested actions are primarily procedural to satisfy requirements for Commission oversight of LRAPA's air quality standards and for Commission adoption of SIP amendments. LRAPA has authority to adopt air quality rules for Lane County. However, ORS 468A.135(2) requires LRAPA to submit rules that include air quality standards, including its Title 12, 32, 48, 49, and 50 rules, to the Commission for approval prior to enforcement. The Commission's approval is not rulemaking, but simply a determination that LRAPA's rules are at least as stringent as the Department's.

LRAPA's Title 12, 32, and 50 rules must be adopted by the Commission as SIP amendments under OAR 340-200-0040 (Attachment A) before the Department can submit these changes to EPA for approval as part of Oregon's SIP as required by the federal Clean Air Act. Titles 48 and 49 are not part of the SIP and therefore do not require Commission adoption as SIP amendments.

Effect of Rule

LRAPA adopted its new Title 49 Nuisance Rules to maintain consistency with the Department's nuisance regulations.

The amendments to Titles 32, 48, and 50 make corresponding revisions to nuisance references in these rules. These sections are amended by eliminating references to nuisance conditions and moving the definitions section from these titles into Title 12. This is LRAPA's effort to move the definitions from individual titles to Title 12 so that all the definitions will be found in one place.

LRAPA is submitting Titles 12, 32, 48, 49, 50 for Commission approval pursuant to ORS 468.135(2) and adoption of Titles 12, 32, and 50 as a SIP amendment.

Commission Authority

The Commission has authority to take this action under ORS 468A.135(2) (approval of LRAPA's rules) and OAR 340-200-0040 (SIP amendments).

Stakeholder Involvement

LRAPA involved stakeholders in the rulemaking processes for adoption of their rules. See Attachment C, the October 9, 2002, report to the LRAPA Board of Directors, describing their public input process.

Public Comment

LRAPA received 4 letters from Lane County industries and the Association of Oregon Industries to comment on an initial notice of rulemaking amendments. The main issue raised was that stakeholders requested to conduct nuisance rule changes in one rulemaking. LRAPA planned to adopt Title 49 (Nuisance Rules) as a local rule with an abbreviated adoption process because it does not have to be included in the SIP. However, there were existing nuisance provisions in other LRAPA rules that do affect the SIP, and LRAPA staff planned to make changes to these rules as a separate rulemaking. As a result of the comments, LRAPA decided to propose a combined rulemaking in a second public notice, which adopts a new Title 49 and eliminates references to nuisance provisions in the other LRAPA rules, including Titles 32 and 50, that are a part of the SIP.

During the public hearing LRAPA had three persons who commented. A summary of their testimony is below:

- A citizen inquired about definitions for phrases such as "reasonably available practices" and "substantial and unreasonable" by commenting they were not clearly defined. LRAPA stated that this definition is not defined in state or federal regulations and that LRAPA staff intend to address it on a case-by-case basis.
  The citizen also asked if LRAPA would make case-by-case determinations of whether a nuisance exists by using criteria such as frequency of emissions and duration of emissions. LRAPA confirmed that it would

make case-by-case determinations.
The citizen also asked if LRAPA is going to stand behind DEQ's response to comment received during DEQ's rulemaking process for the nuisance rules. LRAPA replied that the responses would be similar, but not exactly the same. A detailed response to each individual point is in Attachment D.

- The Associated Oregon Industries voiced support for the revised rule proposal and praised LRAPA for their good product.
- The Eugene Chamber of Commerce stated that there was concern about the initial proposal to include Odor Control Measures in Section 49-050, but that LRAPA's recent proposal to remove the section addressed the concern.

Key Issues

The Department has determined that LRAPA's Title 12, 32, 48, 49, and 50 (Attachment B) satisfy the requirements for Commission approval pursuant to ORS 468A.135(2). LRAPA's Title 12, 32, 48, 49, and 50 are at least as stringent as those adopted by the Commission and were adopted in accordance with rulemaking procedures established by the Commission. The Department recommends the Commission approve Title 12, 32, 48, 49, and 50 in its entirety.

The proposed adoption of LRAPA's Title 12, 32, and 50 as SIP amendments is needed to bring Oregon's SIP up to date. LRAPA, pursuant to Department delegation, provided notice of the proposed SIP amendments as part of the public notices for adoption of these rules.

Next Steps

If adopted as SIP amendments, the Department will submit LRAPA's Title 12, 32, and 50 rules to EPA for approval as updates to Oregon's SIP.

Attachments

A. SIP Amendment Rule, OAR 340-200-0040
B. LRAPA Rules
   1. Title 12 Definitions
   2. Title 32 Emission Standards
   3. Title 48 Fugitive Emissions
   4. Title 49 Nuisance Rules
   5. Title 50 Ambient Air Standards
C. Staff Report (Agenda Item 8) for LRAPA Board of Directors 10/9/01 meeting: Public Hearing and Proposed Adoption of New LRAPA Title 49 (Nuisance Rules) and Associated Amendments to LRAPA Titles 12 (Definitions), 32 (Emission Standards), 48 (Fugitive Emissions), and 50 (Ambient Air Standards)
D. Hearings Officer Report of October 9, 2001 Public Hearing
E. Minutes of LRAPA's Board of Directors 10/9/01 meeting, Item 8, adoption of Title 12, 32, 48, 49, and 50 rules
F. Staff Report (Agenda Item 8) for LRAPA Board of Directors 8/14/01 meeting: Request for Authorization of Public Hearing
G. Minutes of LRAPA Board Meeting August 14, 2001
H. DEQ Evaluation Letter dated July 27, 2001
I. Response to Comments Memo, May 3, 2001

Approved:

Section: _____

Division: _____

Report Prepared By: Rachel Sakata

Phone: 503-229-5659

Attachments

A. SIP Amendment Rule, OAR 340-200-0040
B. LRAPA Rules
   1. Title 12 Definitions
   2. Title 32 Emission Standards
   3. Title 48 Fugitive Emissions
   4. Title 49 Nuisance Rules
   5. Title 50 Ambient Air Standards
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Approved:

Section: Margaret Elyshaut

Division: Andrew Ginsburg

Report Prepared By: Rachel Sakata

Phone: 503-229-5659

DEPARTMENT OF ENVIRONMENTAL QUALITY

Division 200

GENERAL AIR POLLUTION PROCEDURES AND DEFINITIONS

General

340-200-0040

State of Oregon Clean Air Act Implementation Plan

(1) This implementation plan, consisting of Volumes 2 and 3 of the State of Oregon Air Quality Control Program, contains control strategies, rules and standards prepared by the Department of Environmental Quality and is adopted as the state implementation plan (SIP) of the State of Oregon pursuant to the federal Clean Air Act, 42 U.S.C.A §§ 7401 to 7671q.

(2) Except as provided in section (3), revisions to the SIP will be made pursuant to the Commission's rulemaking procedures in division 11 of this chapter and any other requirements contained in the SIP and will be submitted to the United States Environmental Protection Agency for approval.

(3) Notwithstanding any other requirement contained in the SIP, the Department may:

(a) Submit to the Environmental Protection Agency any permit condition implementing a rule that is part of the federally-approved SIP as a source-specific SIP revision after the Department has complied with the public hearings provisions of 40 CFR 51.102 (July 1, 2002); and

(b) Approve the standards submitted by a regional authority if the regional authority adopts verbatim any standard that the Commission has adopted, and submit the standards to EPA for approval as a SIP revision.

NOTE: Revisions to the State of Oregon Clean Air Act Implementation Plan become federally enforceable upon approval by the United States Environmental Protection Agency. If any provision of the federally approved Implementation Plan conflicts with any provision adopted by the Commission, the Department shall enforce the more stringent provision.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.035
Hist.: DEQ 35, f. 2-3-72, ef. 2-15-72; DEQ 54, f. 6-21-73, ef. 7-1-73; DEQ 19-1979, f. & ef. 6-25-79; DEQ 21-1979, f. & ef. 7-2-79; DEQ 22-1980, f. & ef. 9-26-80; DEQ 11-1981, f. & ef. 3-26-81; DEQ 14-1982, f. & ef. 7-21-82; DEQ 21-1982, f. & ef. 10-27-82; DEQ 1-1983, f. & ef. 1-21-83; DEQ 6-1983, f. & ef. 4-18-83; DEQ 18-1984, f. & ef. 10-16-84; DEQ 25-1984, f. & ef. 11-27-84; DEQ 3-1985, f. & ef. 2-1-85; DEQ 12-1985, f. & ef. 9-30-85; DEQ 5-1986, f. & ef. 2-21-86; DEQ 10-1986, f. & ef. 5-9-

86; DEQ 20-1986, f. & ef. 11-7-86; DEQ 21-1986, f. & ef. 11-7-86; DEQ 4-1987, f. & ef. 3-2-87; DEQ 5-1987, f. & ef. 3-2-87; DEQ 8-1987, f. & ef. 4-23-87; DEQ 21-1987, f. & ef. 12-16-87; DEQ 31-1988, f. 12-20-88, cert. ef. 12-23-88; DEQ 2-1991, f. & cert. ef. 2-14-91; DEQ 19-1991, f. & cert. ef. 11-13-91; DEQ 20-1991, f. & cert. ef. 11-13-91; DEQ 21-1991, f. & cert. ef. 11-13-91; DEQ 22-1991, f. & cert. ef. 11-13-91; DEQ 23-1991, f. & cert. ef. 11-13-91; DEQ 24-1991, f. & cert. ef. 11-13-91; DEQ 25-1991, f. & cert. ef. 11-13-91; DEQ 1-1992, f. & cert. ef. 2-4-92; DEQ 3-1992, f. & cert. ef. 2-4-92; DEQ 7-1992, f. & cert. ef. 3-30-92; DEQ 19-1992, f. & cert. ef. 8-11-92; DEQ 20-1992, f. & cert. ef. 8-11-92; DEQ 25-1992, f. 10-30-92, cert. ef. 11-1-92; DEQ 26-1992, f. & cert. ef. 11-2-92; DEQ 27-1992, f. & cert. ef. 11-12-92; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 8-1993, f. & cert. ef. 5-11-93; DEQ 12-1993, f. & cert. ef. 9-24-93; DEQ 15-1993, f. & cert. ef. 11-4-93; DEQ 16-1993, f. & cert. ef. 11-4-93; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 19-1993, f. & cert. ef. 11-4-93; DEQ 1-1994, f. & cert. ef. 1-3-94; DEQ 5-1994, f. & cert. ef. 3-21-94; DEQ 14-1994, f. & cert. ef. 5-31-94; DEQ 15-1994, f. 6-8-94, cert. ef. 7-1-94; DEQ 25-1994, f. & cert. ef. 11-2-94; DEQ 9-1995, f. & cert. ef. 5-1-95; DEQ 10-1995, f. & cert. ef. 5-1-95; DEQ 14-1995, f. & cert. ef. 5-25-95; DEQ 17-1995, f. & cert. ef. 7-12-95; DEQ 19-1995, f. & cert. ef. 9-1-95; DEQ 20-1995 (Temp), f. & cert. ef. 9-14-95; DEQ 8-1996(Temp), f. & cert. ef. 6-3-96; DEQ 15-1996, f. & cert. ef. 8-14-96; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 22-1996, f. & cert. ef. 10-22-96; DEQ 23-1996, f. & cert. ef. 11-4-96; DEQ 24-1996, f. & cert. ef. 11-26-96; DEQ 10-1998, f. & cert. ef. 6-22-98; DEQ 15-1998, f. & cert. ef. 9-23-98; DEQ 16-1998, f. & cert. ef. 9-23-98; DEQ 17-1998, f. & cert. ef. 9-23-98; DEQ 20-1998, f. & cert. ef. 10-12-98; DEQ 21-1998, f. & cert. ef. 10-12-98; DEQ 1-1999, f. & cert. ef. 1-25-99; DEQ 5-1999, f. & cert. ef. 3-25-99; DEQ 6-1999, f. & cert. ef. 5-21-99; DEQ 10-1999, f. & cert. ef. 7-1-99; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-020-0047; DEQ 15-1999, f. & cert. ef. 10-22-99; DEQ 2-2000, f. 2-17-00, cert. ef. 6-*f*1-01; DEQ 6-2000, f. & cert. ef. 5-22-00; DEQ 8-2000, f. & cert. ef. 6-6-00; DEQ 13-2000, f. & cert. ef. 7-28-00; DEQ 16-2000, f. & cert. ef. 10-25-00; DEQ 17-2000, f. & cert. ef. 10-25-00; DEQ 20-2000 f. & cert. ef. 12-15-00; DEQ 21-2000, f. & cert. ef. 12-15-00; DEQ 2-2001, f. & cert. ef. 2-5-01; DEQ 4-2001, f. & cert. ef. 3-27-01; DEQ 6-2001, f. 6-18-01, cert. ef. 7-1-01; DEQ 15-2001, f. & cert. ef. 12-26-01; DEQ 16-2001, f. & cert. ef. 12-26-01; DEQ 17-2001, f. & cert. ef. 12-28-01; DEQ 4-2002, f. & cert. ef. 3-14-02; DEQ 5-2002, f. & cert. ef. 5-3-02; DEQ 11-2002, f. & cert. ef. 10-8-02

LANE REGIONAL AIR POLLUTION AUTHORITY

TITLE 12

Definitions

Section 12-001 Definitions of Words and Terms Used in LRAPA Rules and Regulations

To aid in the understanding of these rules, the following definitions are provided.

- "Abate" means to eliminate the nuisance or suspected nuisance by reducing or managing the emissions using reasonably available practices. The degree of abatement will depend on an evaluation of all of the circumstances of each case and does not necessarily mean completely eliminating the emissions.

- "Acid Gases" means any exhaust gas which includes hydrogen chloride and sulfur dioxide.

- "Actual Emissions" means the mass rate of emissions of a pollutant from an emissions source during a specified time period.

  A. For determining actual emissions as of the baseline period:
     (1) Except as provided in paragraph (2), actual emissions equal the average rate at which the source actually emitted the pollutant during a baseline period and that represents normal source operation;
     (2) The Authority presumes that the source-specific mass emissions limit included in a source's permit that was effective on September 8, 1981 is equivalent to the source's actual emissions during the baseline period if it is within 10 percent of the actual emissions calculated under paragraph (1).
     (3) For any source that had not begun normal operation, actual emissions equal the potential to emit of the source.

  B. For determining actual emissions for Emission Statements under OAR 340-214-0200 through 340-214-0220, and Oregon Title V Operating Permit Fees under OAR 340 Division 220, actual emissions include, but are not limited to, routine process emissions, fugitive emissions, excess emissions from maintenance, startups and shutdowns, equipment malfunction, and other activities, except categorically insignificant activities and secondary emissions.

  C. For Oregon Title V Operating Permit Fees under OAR 340 Division 220, actual emissions must be directly measured with a continuous monitoring system or calculated using a material balance or verified emission factor in combination with the source's actual operating hours, production rates, or types of materials, processed, stored, or combusted during the specified time period.

- "Adequately wet" means to sufficiently mix or penetrate asbestos-containing material with liquid to prevent the release of particulate asbestos materials. The absence of visible emissions is not sufficient evidence of being adequately wet.
- "Adoption" means the carrying of a motion by the Board with regard to the subject matter or issues of an intended Authority action.

- "Aggregate Insignificant Emissions" means the annual actual emissions of any regulated air pollutant as defined in OAR 340-200-0020, for any Title V Operating Permit program source, including the usage of exempt mixtures, up to the lowest of the following applicable level:

  A. one ton for each criteria pollutant;
  B. 500 pounds for PM10 in a PM10 nonattainment area;
  C. 120 pounds for lead;
  D. the lesser of the amount established in OAR 340-244-0230, Table 3, or 1,000 pounds for each Hazardous Air Pollutant;
  E. an aggregate of 5,000 pounds for all Hazardous Air Pollutants.

- "Agricultural open burning" means the open burning of "agricultural wastes," which are materials actually generated by an agricultural operation but excluding those materials described in Section 47-015-1.E.

- "Agricultural operation" means an activity on land currently used or intended to be used primarily for the purpose of obtaining a profit in money by raising, harvesting and selling crops or by the raising and sale of livestock or poultry, or the produce thereof, which activity is necessary to serve that purpose. It does not include the construction and use of dwellings customarily provided in conjunction with the agricultural operation.

- "Agricultural waste" means any material actually generated or used by an agricultural operation but excluding those materials described in Section 47-015-1.E.

- "Air Contaminant" means solid, liquid or gaseous materials suspended in the ambient air. This does not include water vapor.

- "Air Contaminant Discharge Permit" means a written permit issued by the Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify or operate specified facilities, conduct specified activities, or emit, discharge or dispose of air contaminants in accordance with specified practices, limitations, or prohibitions.

- "Air Contaminant Source" means any building, structure, or facility, or combination thereof, which emits or is capable of emitting air contaminants to the atmosphere, and is located on one or more contiguous or adjacent properties, and is owned or operated by the same person or by persons under common control. This includes all of the pollutant emitting activities which belong to the same industrial grouping, or major group (i.e., which have the same two-digit code) as described in EPA's Standard Industrial Classification (SIC) manual (U.S. Office of Management and Budget, 1987). This definition does not include fuel-burning equipment used

to heat one- or-two-family dwellings or internal combustion engines used in motor vehicles, aircraft, and marine vessels enroute to or from a source.

- "Air Conveying System" means an air moving device such as a fan or blower, and associated ductwork, and a cyclone or other collection device, the purpose of which is to move material from one point to another by entrainment in a moving airstream. It does not include particle dryers.

- "Air Pollution" means the presence in the outdoor atmosphere of one or more air contaminants, or any combination thereof, in sufficient quantities and of such characteristics and of a duration as are, or are likely to be, injurious to the public welfare, to the health of human, plant or animal life or to property , or which unreasonably interfere with enjoyment of life and property.

- "Air Pollution Control Equipment" means any equipment which has as its essential purpose a reduction in the emissions of air contaminants, or a reduction in the effect of such emissions.

- "Air Quality Maintenance Area (AQMA)" means any area that has been identified by the Authority or the Department, and approved by the Board or the Commission, as having the potential for exceeding any federal, state or local ambient air quality standard.

- "Air Quality Maintenance Area (AQMA) Analysis" means an analysis of the impact on air quality in an AQMA of emissions from existing air contaminant sources and emissions associated with projected growth and development.

- "Aircraft Operation" means any aircraft landing or takeoff.

- "Airport" means any area of land or water which is used or intended for use for the landing and takeoff of aircraft, or any appurtenant areas, facilities, or rights-of-way, such as terminal facilities, parking lots, roadways, and aircraft maintenance and repair facilities.

- "Ambient Air" means the air that surrounds the earth to which the general public has access, excluding the volume of gases contained within any building or structure.

- "Ambient Air Monitoring Site Criteria" means the general probe siting specifications in Appendix E of 40 CFR 58.

- "Applicable State Implementation Plan" and "Plan" refer to the programs and rules of the Department or the Authority, as approved by the EPA, or any EPA-promulgated regulations (see **40 CFR Part 52, Subpart MM**).

- "Asbestos" means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cumingtonite-grunerite (amosite), anthophyllite, actinolite and trimolite.

- "Asbestos abatement project" means any demolition, renovation, repair, construction or maintenance activity of any public or private facility that involves the repair, enclosure, encapsulation, removal, salvage, handling or disposal of any material with the potential of

releasing asbestos fibers from asbestos-containing material into the air. Note: An asbestos abatement project is not considered to be a source under 43-010-2 through 43-010-6. Emergency fire fighting is not an asbestos abatement project.

- "Asbestos-containing material" means asbestos or any material containing at least 1% asbestos by weight, including particulate asbestos material.

- "Asbestos-containing waste material" means any waste which contains asbestos tailings or any commercial asbestos and is generated by a source subject to the provisions of this subsection, including but not limited to asbestos mill tailings, control device asbestos waste, friable asbestos waste material, asbestos abatement project waste and bags or containers that previously contained commercial asbestos.

- "Asbestos manufacturing operation" means the combining of commercial asbestos, or in the case of woven friction products, the combining of textiles containing commercial asbestos with any other material(s) including commercial asbestos, and the processing of this combination into a product as specified in Section 43-015-3.

- "Asbestos mill" means any facility engaged in the conversion or any intermediate step in the conversion of asbestos ore into commercial asbestos.

- "Asbestos tailings" means any solid waste product of asbestos mining or milling operations which contains asbestos.

- "Asbestos waste generator" means any person performing an asbestos abatement project or any owner or operator of a source subject to 43-005 through 43-015 whose act or process generates asbestos-containing waste material.

- "Asbestos waste shipment record" means the shipment document, required to be originated and signed by the asbestos waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

- "Approved Method" means an analytical method for measuring air contaminant concentrations which are described or referenced in Appendices to 40 CFR 50 and 40 CFR 53. These methods are approved by the Authority.

- "Assessable Emission" means a unit of emissions for which the major source will be assessed a fee. It includes an emission of a pollutant defined in LRAPA 35-010 from one emission point or from an area within a major source. For routine process emissions, emissions of each pollutant in LRAPA 35-010 from each emission point, included in an air contaminant discharge permit, shall be an assessable emission.

- "Associated Parking" means a discrete parking facility or facilities owned, operated and/or used in conjunction with an indirect source.

- "ASTM" means the American Society for Testing Materials.

- "Authority" means the Lane Regional Air Pollution Authority.

- "Authority Administering SIP," where found in the federal rule, means the Authority, the Department, or the EPA.

- "Authority-Approved Method" means any method of sampling and analyzing for an air contaminant approved by the Authority. These methods are listed in the state Department of Environmental Quality's Source Sampling Manual.
- "Automobile" means any self-propelled motor vehicle used for transporting persons or commodities on public roads.

- "Auxiliary Combustion Equipment" includes, but is not limited to, fans or air curtain incinerators.

- "Average Daily Traffic" means the total traffic volume during a given time period in whole days greater than one day and less than one year, divided by the number of days in that time period, commonly abbreviated as ADT.

- "Average Operating Opacity" means the opacity of emissions determined using EPA method 9 on three days within a 12-month period which are separated from each other by at least 30 days. A violation of the average operating opacity limitation is judged to have occurred if the opacity of emissions on each of the three days is greater than the specified average operating opacity limitation. .

- "Baseline concentration" means that ambient concentration level for a particular regulated pollutant which existed in an area during the calendar year 1978. If no ambient air quality data is available in an area, the baseline concentration for any pollutant may be estimated using modeling based on actual emissions for the calendar year 1978. Actual emissions increases or decreases occurring before January 1, 1978 will be included in the baseline concentration.
- "Baseline Emission Rate" means the average actual emission rate during the baseline period. Baseline emission rate shall not include increases due to voluntary fuel switches or increased hours of operation that have occurred after the baseline period.

- "Baseline Period" means either calendar years 1977 or 1978. The Authority shall allow the use of a prior time period upon a determination that it is more representative of normal source operation.

- "Begin Actual Construction" means to begin to engage in a continuous program of on-site construction or on-site modification, including site clearing, grading, dredging, or landfilling in preparation for the fabrication, erection, installation or modification of a source.

- "Beryllium" means the element beryllium. Where weight or concentrations are specified in these Rules, such weights or concentrations apply to beryllium only, excluding any associated elements.

- "Beryllium Alloy" means any metal to which beryllium has been added in order to increase its beryllium content, and which contains more than one-tenth of one percent (0.1 %) beryllium by weight.

- "Beryllium-Containing Waste" means any material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to these rules.

- "Beryllium ore" means any naturally occurring material mined or gathered for its beryllium content.

- "Best Available Control Technology (BACT)" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each air contaminant subject to regulation under the Clean Air Act which would be emitted from any proposed major source or major modification which, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such air contaminant. In no event shall the application of BACT result in emissions of any air contaminant which would exceed the emissions allowed by any applicable new source performance standard or any standard for hazardous air pollutants. If an emission limitation is not feasible, a design, equipment, work practice, or operational standard, or combination thereof, may be required. Such standard shall, to the degree possible, set forth the emission reduction achievable and shall provide for compliance by prescribing appropriate permit conditions.

- "Biological Waste," includes blood and blood products, excretions, exudates, secretions, suctionings and other body fluids that cannot be directly discarded into a municipal sewer system, and waste materials saturated with blood or body fluids, but does not include diapers soiled with urine or feces (see also "infectious waste").

- "BLS" means Black Liquor Solids, dry weight.

- "Board" means the Board of Directors of the Lane Regional Air Pollution Authority.

- "Board Products" means hardwood, particleboard, plywood, and veneer.

- "Calculated Emission" means actual emissions estimated using Authority-approved procedures.

- "Categorically Insignificant Activity" means any of the following listed pollutant emitting activities principally supporting the source or the major industrial group. Categorically insignificant activities must comply with all applicable requirements.

  A. constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under OAR Chapter 340, Divisions 200 through 268, or less than 0.1% by weight of any carcinogen listed in the U. S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year.

B. evaporative and tail pipe emissions from on-site motor vehicle operation;
C. distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr;
D. natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr;
E. office activities;
F. food service activities;
G. janitorial activities;
H. personal care activities;
I. groundskeeping activities including, but not limited to building painting and road and parking lot maintenance;
J. on-site laundry activities;
K. on-site recreation facilities;
L. instrument calibration;
M. maintenance and repair shop;
N. automotive repair shops or storage garages;
O. air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment;
P. refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems;
Q. bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities;
R. temporary construction activities;
S. warehouse activities;
T. accidental fires;
U. air vents from air compressors;
V. air purification systems;
W. continuous emissions monitoring vent lines;
X. demineralized water tanks;
Y. pre-treatment of municipal water, including use of deionzed water purification systems;
Z. electrical charging stations;
AA. fire brigade training;
BB. instrument air dryers and distribution;
CC. process raw water filtration systems;
DD. pharmaceutical packaging;
EE. fire suppression;
FF. blueprint making;
GG. routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking;
HH. electric motors;
II. storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids;

JJ. on-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles;
KK. natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment;
LL. pressurized tanks containing gaseous compounds;
MM. vacuum sheet stacker vents;
NN. emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities;
OO. log ponds;
PP. storm water settling basins;
QQ. fire suppression and training;
RR. paved roads and paved parking lots within an urban growth boundary;
SS. hazardous air pollutant emissions of fugitive dust from paved and unpaved roads except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils;
TT. health, safety, and emergency response activities;
UU. emergency generators and pumps used only during loss of primary equipment or utility service;
VV. non-contact steam vents and leaks and safety and relief valves for boiler steam distribution systems;
WW. non-contact steam condensate flash tanks;
XX. non-contact steam vents on condensate receivers, deaerators and similar equipment;
YY. boiler blowdown tanks;
ZZ. industrial cooling towers that do not use chromium-based water treatment chemicals;
AAA. ash piles maintained in a wetted condition and associated handling systems and activities;
BBB. oil/water separators in effluent treatment systems;
CCC. combustion source flame safety purging on startup;
DDD. broke beaters, pulp and repulping tanks, stock chests and pulp handling equipment, excluding thickening equipment and repulpers;
EEE. stock cleaning and pressurized pulp washing, excluding open stock washing systems; and
FFF. white water storage tanks.

"Chair" means the chairperson of the Board of Directors of the Lane Regional Air Pollution Authority.

"Charcoal Producing Plant" means an industrial operation which uses the destructive distillation of wood to obtain the fixed carbon in the wood.

"Chlorofluorocarbons (CFC)" includes:

A. CFC-11 (trichlorofluoromethane);
B. CFC-12 (dichlorodifluoromethane);
C. CFC-113 (trichlorotrifluoroethane);
D. CFC-114 (dichlorotetrafluoroethane); and
E. CFC-115 ((mono)chloropentafluoroethane).

"Class I Area" means any federal, state, or Indian reservation land which is so classified. For the State of Oregon, these are as follows:

A. Mt. Hood Wilderness;
B. Eagle Cap Wilderness;
C. Hells Canyon Wilderness;
D. Mt. Jefferson Wilderness;
E. Mt. Washington Wilderness;
F. Three Sisters Wilderness;
G. Strawberry Mountain Wilderness;
H. Diamond Peak Wilderness;
I. Crater Lake National Park;
J. Kalmiopsis Wilderness;
K. Mountain Lake Wilderness;
L. Gearhart Mountain Wilderness.

"Class I Equivalent" or "Equivalent," as used in Title 15, is used only for the purposes of determining the value of the "P" factor in the civil penalty formula, and means three Class II (two) violations, one Class II and two Class III (three) violations, or three Class III Violations.

"Collection Efficiency" means the overall performance of the air cleaning device in terms of ratio of weight of material collected to total weight of input to the collector, unless specific size fractions of the contaminant are stated or required.

"Combustion Promoting Materials" include, but are not limited to, propane, diesel oil, or jellied diesel.

"Commence Construction" means to begin to engage in a continuous program of on-site construction or on-site modification, including site clearing, grading, dredging, or landfilling in preparation for the fabrication, erection, installation or modification of a source; or entry into binding agreements or contractual obligations which cannot be canceled or modified without substantial loss to the owner or operator.

"Commence Construction," as used in Title 20, means to begin to engage in a continuous program of on-site construction or on-site modifications, including site clearance, grading, dredging, or landfilling in prepartion for the fabrication, erection, installation or modification of an indirect source. Interruptions and delays resulting from acts of God, strikes, litigation or other matters beyond the control of the owner shall be disregarded in determining whether a construction or modification program is continuous.

"Commercial Area" means land which is zoned or used for commercial operations including retail sales and services.

"Commercial asbestos" means any variety of asbestos which is produced by extracting asbestos from asbestos ore.

- "Commercial Open Burning" means the open burning of "commercial wastes," which are materials actually generated or used by a commercial operation.

- "Commission" means the Environmental Quality Commission.

- "Compliance" means meeting the requirements of the Authority's or Depart-ment's, Commission's or EPA's rules, permits or orders.

- "Constant Process Rate" means the average variation in process rate for the calendar year is not greater than plus or minus ten percent of the average process rate.

- "Construction" means any physical change including fabrication, erection, installation, or modification of a facility, building or emission unit; or change in method of operation of a source which would result in a change in actual emissions.

- "Construction Open Burning" means the open burning of "construction wastes," which are materials actually resulting from or produced by a building or construction project.

- "Contested Case" means a proceeding before the Board or a Hearings Officer:

  A. In which the individual legal rights, duties or privileges of specific parties are required by statute or Constitution to be determined only after an agency hearing at which such specific parties are entitled to appear and be heard; or
  B. Where the Authority has discretion to suspend or revoke a right or privilege of a person; or
  C. For the suspension, revocation or refusal to renew or issue a permit where the licensee or applicant for a license demands such hearing; or
  D. Where Authority rule or order provides for hearing substantially of the character required by ORS 183.415, 183.425 and 183.450 to 183.470.

- "Contingency Requirements" means the requirements of Sections 39-001 through 39-060.

- "Continual Monitoring" means sampling and analysis, in a continuous or timed sequence, using techniques which will adequately reflect actual emission rates or concentrations on a continuous basis.

- "Continuous Emissions Monitoring" means a monitoring system for continuously measuring the emissions of a pollutant from an affected incinerator. Continuous monitoring equipment and operation shall be certified in accordance with EPA performance specifications and quality assurance procedures outlined in 40 CFR 60, Appendices B and F, and the Department's CEM Manual.

- "Continuous Monitoring," as used in 33-070, means instrumental sampling of a gas stream on a continuous basis, excluding periods of calibration.

- "Continuous Monitoring Systems" means sampling and analysis, in a timed sequence, using techniques which will adequately reflect calculated emissions and actual emission levels or

concentrations on a continuing basis, in accordance with the Department's Continuous Monitoring Manual, and includes continuous emission and parameter monitoring systems.

- "Crematory Incinerator" means an incinerator used solely for the cremation of non-pathological human and non-pathological animal remains.

- "Cultures and stocks" includes etiologic agents and associated biologicals, including specimen cultures and dishes and devices used to transfer, inoculate and mix cultures, wastes from production of biologicals, and serums and discarded live and attenuated vaccines. "Cultures" does not include throat and urine cultures (see also "infectious waste".

- "Daily Arithmetic Average" means the average concentration over the twenty-four hour period in a calendar day, or Authority-approved equivalent period, as determined by continuous monitoring equipment or reference method testing. Determinations based on EPA reference methods or equivalent methods in accordance with the Department Source Test Manual consist of three (3) separate consecutive runs having a minimum sampling time of sixty (60) minutes each and a maximum sampling time of eight (8) hours each. The three values for concentration (ppm or grains/dscf) are averaged and expressed as the daily arithmetic average which is used to determine compliance with process weight limitations, grain loading or volumetric concentration limitations and to determine daily emission rate.

- "Debris Clearing" means the removal of wood, trees, brush or grass in preparation for a land improvement or construction project.

- "Demolish" or "Demolition" means the wrecking or removal of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

- "Demolition Open Burning" means the open burning of "Demolition Wastes," which are materials actually resulting from or produced by the complete or partial destruction or tearing down of a man-made structure or the clearing of any site to abate a nuisance, or land clearing for site preparation for development.

- "Department" means the Oregon Department of Environmental Quality.

- "Design Criteria" means the numerical as well as narrative description of the basis of design including, but not necessarily limited to, design flow rates, temperatures, humidities, descriptions of the types and chemical species of contaminants, uncontrolled and expected controlled mass emission rates and concentrations, scopes of any vendor-supplied and owner-supplied equipment and utilities, and a description of any operational controls.

- "Dioxins and Furans" means total tetra- through octachlorinated dibenzo-p-dioxins and dibenofurans.

- "Director" means the Director of the Lane Regional Air Pollution Authority and authorized deputies or officers.

- "Distillate Fuel Oil" means any oil meeting the specifications of ASTM Grade 1 or Grade 2 fuel oils.

- "Documented Violation" means any violation which the Authority or other government agency records after observation, investigation or data collection.

- "Dry Material" includes, but is not limited to, dried wood, feed, seed, or other materials.

- "Dry Standard Cubic Foot" means the amount of gas, free of uncombined water, that would occupy a volume of 1 cubic foot at standard conditions. When applied to combustion flue gases from waste or refuse burning, "Standard Cubic Foot (SCF)" means adjustment of gas volume to that which would result at a concentration of 7% oxygen (dry basis).

- "Dusts" means minute solid particles released into the air by natural forces or by mechanical processes such as crushing, grinding, milling, drilling, demolishing, shoveling, conveying, covering, bagging, or sweeping.
- "Emission" means a release into the ambient air of air contaminants.

- "Emission Estimate Adjustment Factor (EEAF)" means an adjustment applied to an emission factor to account for the relative inaccuracy of the emission factor.

- "Emission Factor" means an average value which relates the quantity of a pollutant released to the atmosphere with the activity associated with the release of that pollutant.

- "Emission Limitation" means a requirement established by LRAPA, local government, the State of Oregon DEQ or the U. S. EPA, which limits the quantity, rate or concentration of emissions of air pollutants on a continuous basis. This includes requirements on opacity limits, equipment prescriptions, fuel specifications, and operation and maintenance procedures.

- "Emission Point" means the location, place in horizontal plane and vertical elevation at which an emission enters the outdoor atmosphere.

- "Emission Reduction Credit Banking" means to reserve emission reductions for future use by the reserver or assignee.

- "Emission Reporting Form" means a paper or electronic form developed by the Authority that shall be completed by the permittee to report calculated emissions or permitted emissions for interim emission fee assessment purposes.

- "Emission Standard" is the same as "Emission Limitation".

- "Emission Unit" means any part of a source (including specific process equipment) which emits or would have the potential to emit any air contaminant subject to regulation under the Clean Air Act, State of Oregon laws, or these regulations.

- "Enforcement" means any documented action taken to address a violation.

- "EPA" means the United States Environmental Protection Agency.

- "EPA Method 9" means the method for Visual Determination of the Opacity of Emissions From Stationary Sources as promulgated by the U.S. Environmental Protection Agency in Title 40 of the Code of Federal Regulations, Part 60, Appendix A, Method 9.

- "Eugene/Springfield Air Quality Maintenance Area" means that area described in Section 4.6.2.1 and Figure 4.6.2.1--1 of the State of Oregon State Implementation Plan Revision, Eugene/Springfield AQMA, as approved by the Board on November 6, 1980.

- "Eugene-Springfield Urban Growth Boundary (ESUGB)" means the area within and around the cities of Eugene and Springfield, as described in the currently acknowledged Eugene-Springfield Metropolitan Area General Plan, as amended.

- "Event" means any period of excess emissions.

- "Excess Emissions" means emissions which are in excess of an Air Contaminant Discharge Permit or any applicable air quality rule.

- "Existing Source" means any air contaminant source constructed prior to the date of adoption of rules affecting that source.

- "Expressway" means a divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

- "Fabricating" means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

- "Facility" means all or part of any public or private building, structure, installation, equipment, or vehicle or vessel including but not limited to ships.

- "Federal Land Manager" means, with respect to any lands in the United States, the Secretary of the federal department with authority over such lands.

- "Federal Operating Permit Program" means a program approved by the EPA Administrator under 40 CFR Part 70 (last amended by 57 FR 32295, July 21, 1992). The rules and regulations which shall apply until superseded by LRAPA rules and regulations are OAR 340-28-2100 through 340-28-2320 and 340-28-2560 through 340-28-2740, and all of OAR 340-32.

- "Filing" or "filed" means receipt in the office of the Director. Such receipt is adequate where filing is required for a document on a matter before the Authority, except a claim of personal liability.

- "Fire Hazard" means the presence or accumulation of combustible material of such nature and in sufficient quantity that its continued existence constitutes an imminent and substantial danger to life, property, public welfare, or to adjacent lands.

- "Fire Permit Issuing Agency" means any governmental fire permit issuing agency, such as city fire department, rural fire protection district, water district, forest protection district or county court or board of county commissioners or their designated representative, as applicable.

- "Flagrant" means any documented violation where the respondent had actual knowledge of the law and consciously set out to commit the violation.

- "Forest Slash Open Burning" means burning of vegetative debris and refuse on forest land related to the growing and/or harvesting of forest tree species where there is no change in the use of the land from timber production. Forest slash open burning does not include burning for commercial or individual use, or for any other type of land clearing not related to the growing and harvesting or forest tree species.

- "Formal Enforcement Action" means an administrative action signed by the Director or authorized representative which is issued to a respondent for a documented violation. A formal enforcement action may require the respondent to take specific action within a specified time frame and/or state the consequences for continued non-compliance.

- "Freeway" means an expressway with full control of access.

- "Friable asbestos material" means any asbestos-containing material that hand pressure can crumble, pulverize or reduce to powder when dry.

- "Fuel Moisture Content by Weight Greater Than 20%" means bark, hogged wood waste, or other wood with an average moisture content of more than 20 percent by weight on a wet basis as used for fuel in the normal operating of a wood-fired veneer dryer as measured by ASTM D4442-84 during compliance source testing.

- "Fuel Moisture Content by Weight Less Than 20%" means pulverized ply trim, sanderdust, or other wood with an average moisture content of 20 percent or less by weight on a wet basis as used for fuel in the normal operations of a wood-fired veneer dryer as measured by ASTM D4442-04 during compliance source testing.

- "Fugitive Emissions," means emissions of any air contaminant which escapes to the ambient air from any point or area that is not identifiable as a stack, vent, duct, or functionally equivalent opening.

- "Full-scale asbestos abatement project" means any asbestos abatement project which is intended to prevent the release of asbestos fibers into the air and which is not classified as a "small-scale asbestos abatement project."

- "Garbage" means putrescible animal and vegetable wastes resulting from the handling, preparation, cooking, and serving of food.

- "Gasoline" means any petroleum distillate having a Reid vapor pressure of four (4) pounds per square inch or greater.

- "General Arrangement," in the context of the compliance schedule requirements in this division, means drawings or reproductions which show, as a minimum, the size and location of equipment served by the emission-control system, the location and elevation above grade of the ultimate point of contaminant emission to the atmosphere, and the diameter of the emission vent.

- "Growth Increment" means an allocation of some part of an airshed's capacity to accommodate future new minor sources, modifications of minor sources, and area source growth.

- "Hardboard" means a flat panel made from wood that has been reduced to basic wood fibers and bonded by adhesive properties under pressure.

- "Hazardous Air Contaminant" means any air contaminant considered by the Authority or Department to cause or contribute to an identifiable and significant increase in mortality or to an increase in serious irreversible or incapacitating reversible illness and for which no ambient air standard exists.

- "Hazardous Waste" means a hazardous waste as defined in 40 CRF 261.3.

- "HEPA filter" means a high-efficiency particulate air filter capable of filtering 0.3 micrometer particles with 99.97 percent efficiency.

- "Highway Section" means a highway of substantial length between logical termini (major crossroads, population centers, major traffic generators, or similar major highway control elements) as normally included in a single location study or multi-year highway improvement program.

- "Hot Mix Asphalt Plant" means those facilities and equipment which convey or batch load proportioned quantities of cold aggregate to a drier, and heat, dry, screen, classify, measure, and mix the aggregate with asphalt for purposes of paving, construction, industrial, residential, or commercial use.

- "Immediately," as relates to notifying LRAPA of episodes of excess emissions, means one of the following:

  A. During LRAPA's normal work hours, 8:00 a.m. to 5:00 p.m. Monday through Friday, report is to be made as soon as possible but no more than one (1) hour after the beginning of the excess emissions; or
  B. During LRAPA's off-duty hours or on weekends or holidays, report is to be made as soon as possible but no more than one (1) hour after the beginning of the excess emissions, using LRAPA's electronic telephone answering equipment. If the person reporting the incident is unable to access the telephone answering equipment because of overloaded

telephone circuits or telephone equipment malfunction, the report must be made to the LRAPA business office at the beginning of the next working day.

- "Inactive asbestos waste disposal site" means any disposal site where the operator has allowed the Department's solid waste permit to lapse, has gone out of business, or no longer receives asbestos-containing waste.

- "Incineration Operation" means any operation in which combustion is carried on in an incinerator, for the principal purpose or with the principal result, of oxidizing wastes to reduce their bulk and/or facilitate disposal.

- "Incinerator" means a combustion device specifically for destruction, by high temperature burning, of solid, semi-solid, liquid, or gaseous combustible wastes. This does not include devices such as open or screened barrels, drums, or process boilers.

- "Indirect Source" means a facility, building, structure, installation, or any portion or combination thereof, which indirectly causes or may cause mobile source activity that results in emissions of an air contaminant for which there is a federal, state or local standard. Such Indirect Sources shall include, but shall not be limited to:

  A. Highways and roads;
  B. Parking facilities;
  C. Retail, commercial and industrial facilities;
  D. Recreation, amusement, sports and entertainment facilities;
  E. Airports;
  F. Office and government buildings;
  G. Apartment and mobile home parks;
  H. Educational facilities;
  I. Hospital facilities; and
  J. Religious facilities.

- "Indirect Source Construction Permit" means a written permit in letter form issued by the Authority, bearing the signature of the Director, which authorizes the permittee to commence construction of an indirect source, under construction and operation conditions and schedules as specified in the permit.

- "Indirect Source Emission Control Program (ISECP)" means a program which reduces mobile source emissions resulting from the use of the Indirect Source. An ISECP may include, but is not limited to:

  A. Posting transit route and scheduling information.
  B. Construction and maintenance of bus shelters and turnout lanes.
  C. Maintaining mass transit fare reimbursement programs.
  D. Making a car pool matching system available to employees, shoppers, students, residents, etc.
  E. Reserving parking spaces for car pools.
  F. Making parking spaces available for park-and-ride stations.

G. Minimizing vehicle running time within parking lots through the use of sound parking lot design.
H. Ensuring adequate gate capacity by providing for the proper number and location of entrances and exits and optimum signalization for such.
I. Limiting traffic volume so as not to exceed the carrying capacity of roadways.
J. Altering the level of service at controlled intersections.
K. Obtaining a written statement of intent from the appropriate public agency(s) on the disposition of roadway improvements, modifications, and/or additional transit facilities to serve the individual source.
L. Construction and maintenance of exclusive transit ways.
M. Providing for the collection of air quality monitoring data at Reasonable Receptor and Exposure Sites.
N. Limiting facility modifications which can take place without resubmission of a permit application.

· "Industrial Area" means land which is zoned or used for industrial operations, including manufacturing.

· "Industrial Open Burning" means the open burning of "industrial wastes," which are materials produced as a direct result of any manufacturing or industrial process.

· "Infectious Waste" means waste which contains or may contain any disease-producing microorganism or material including, but not limited to, biological waste, cultures and stocks, pathological waste, and sharps (see individual definitions for these terms).

· "Infectious Waste Incinerator" means an incinerator which is operated or utilized for the disposal or treatment of infectious waste, including combustion for the recovery of heat.

· "Intentional," means conduct by a person with a conscious objective to cause the result of the conduct.

· "Interim Emission Fee" means $13 per ton for each assessable emission subject to emission fees under LRAPA 35-010 for calculated or permitted emissions released during calendar years 1991 and 1992.

· "Interim storage of asbestos-containing material" means the storage of asbestos-containing waste material which has been placed in a container outside a regulated area until transported to an authorized landfill.

· "Kraft Mill" or "Mill" means any industrial operation which uses for a cooking liquor an alkaline sulfide solution containing sodium hydroxide and sodium sulfide in its pulping process.

· "Land Clearing" means the removal of trees, brush, logs, stumps, debris or man-made structures for the purpose of site clean-up or site preparation for construction.

· "Late Payment" means an interim emission fee which is postmarked after the due date.

- "Leaves" means needle or leaf materials which have fallen from trees, shrubs, or plants on the property around a dwelling unit.

- "Lime Kiln" means any production device in which calcium carbonate is thermally converted to calcium oxide.

- "Lowest Achievable Emission Rate (LAER)" means that rate of emissions which reflects:

  A. The most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or
  B. The most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

  In no event shall the application of this term allow a proposed new or modified source to emit any air contaminant in excess of the amount allowable under applicable new source performance standards or standards for hazardous air pollutants.

- "LRAPA" means the Lane Regional Air Pollution Authority, a regional air quality control authority.

- "Magnitude of the Violation" means the extent of a violator's deviation from federal, state and the Authority's statutes, rules, standards, permits or orders. In determining magnitude, the Authority shall consider available information, including such factors as concentration, volume, percentage, duration, toxicity, and the extent of the effects of the violation. In any case, the Authority may consider any single factor to be conclusive. Deviations shall be categorized as major, moderate or minor.

- "Major Modification" means any physical change or change of operation of a source that would result in a net significant emission rate increase (as defined in this section) for any pollutant subject to regulation under the Clean Air Act. This criteria also applies to any pollutants not previously emitted by the source. Calculations of net emission increases must take into account all accumulated increases and decreases (not including mandated decreases) in actual emissions occurring at the source since January 1, 1978, or since the time of the last major source or major modification approval issued for the source pursuant to the rules for that pollutant, whichever time is more recent. If accumulation of emission increases results in a net significant emission rate increase, the modifications causing such increases become subject to the major modification requirements of this title, including the retrofit of required controls. For the purposes of this title, fugitive emissions shall be included in the calculation of emission rates of all air contaminants. Fugitive emissions are subject to the same control requirements and analyses required for emissions from identifiable stacks or vents. Secondary emissions shall not be included in calculations of potential emissions which are made to determine if a proposed source or modification is major. Once a source or modification is identified as being major, secondary emissions must be added to the primary emissions and become subject to these rules.

- "Major Source" **means:**

A. Except as provided in subsection (b), means a source that emits, or has the potential to emit, any regulated air pollutant at a Significant Emission Rate. This includes emissions from insignificant activities.

B. As used in OAR 340 division 210, Stationary Source Notification Requirements, OAR 340 division 218, Rules Applicable to Sources Required to Have Oregon Title V Operating Permits OAR 340 division 220, Oregon Title V Operating Permit Fees, and OAR 340-216-0066 Standard ACDPs, means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping or supporting the major industrial group and that is described in paragraphs (A), (B), or (C) of this subsection. For the purposes of this subsection, a stationary source or group of stationary sources is considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual (U.S. Office of Management and Budget, 1987) or support the major industrial group.

(1) A major source of hazardous air pollutants, which means:

(a) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutants that has been listed pursuant to OAR 340-244-0040; 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Emissions from any oil or gas exploration or production well, along with its associated equipment, and emissions from any pipeline compressor or pump station will not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

(b) For radionuclides, "major source" will have the meaning specified by the Administrator by rule.

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit 100 tpy or more of any regulated air pollutant, including any major source of fugitive emissions of any such pollutant. The fugitive emissions of a stationary source are not considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;

(h) Municipal incinerators capable of charging more than 50 tons of refuse per day;
(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(r) Fuel conversion plants;
(s) Sintering plants;
(t) Secondary metal production plants;
(u) Chemical process plants;
(v) Fossil-fuel boilers, or combination thereof, totaling more than 250 million British thermal units per hour heat input;
(w) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(x) Taconite ore processing plants;
(y) Glass fiber processing plants;
(z) Charcoal production plants;
(aa) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
(bb) All other stationary source categories regulated by a standard promulgated under section 111 or 112 of the Act, but only with respect to those air pollutants that have been regulated for that category.

(3) A major stationary source as defined in part D of Title I of the Act, including:
(a) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of VOCs or oxides of nitrogen in areas classified as "marginal" or "moderate," 50 tpy or more in areas classified as "serious," 25 tpy or more in areas classified as "severe," and 10 tpy or more in areas classified as "extreme"; except that the references in this paragraph to 100, 50, 25, and 10 tpy of nitrogen oxides do not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Act, that requirements under section 182(f) of the Act do not apply;
(b) For ozone transport regions established pursuant to section 184 of the Act, sources with the potential to emit 50 tpy or more of VOCs;
(c) For carbon monoxide nonattainment areas:
(i) that are classified as "serious;" and
(ii) in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide.
(d) For particulate matter (PM10) nonattainment areas classified as "serious," sources with the potential to emit 70 tpy or more of PM10.

- "Major Source," as used in Title 38, means a source which emits, or has the potential to emit, any pollutant regulated under the Clean Air Act at a Significant Emission Rate (as defined in Title 38). For the purposes of this title, fugitive emissions shall be included in the calculation of emission rates of all air contaminants. Fugitive emissions are subject to the same control requirements and analyses required for emissions from identifiable stacks or vents. Secondary emissions shall not be included in calculations of potential emissions which are made to determine if a proposed source or modification is major. Once a source or modification is identified as being major, secondary emissions must be added to the primary emissions and become subject to these rules.

- "Material Balance" means a procedure for calculating emissions based on the difference between the amount of material added to a process and the amount consumed and recovered from a process.

- "Maximum Opacity" means the opacity as determined by EPA Method 9 (average of 24 consecutive observations).

- "Mercury" means the element mercury, excluding any associated elements and includes mercury in particulates, vapors, aerosols, and compounds.

- "Mercury Ore" means any mineral mined specifically for its mercury content.

- "Mercury Ore Processing Facility" means a facility processing mercury ore to obtain mercury.

- "Mercury Chlor-Alkali Cell" means a device which is basically composed of an electrolyzer section and denuder (decomposer) section, and which utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

- "Mobile Source" means self-propelled vehicles, powered by internal combustion engines, including but not limited to automobiles, trucks, motorcycles and aircraft.

- "Model Rules" or "Uniform Rules" means the Attorney General's Uniform and Model Rules of Procedure, OAR 137-01-005 through 137-04-010 as amended and in effect on April 29, 1988.

- "Modification of an Air Contaminant Source" means any physical change or change in operation of a source which would result in a non-permitted increase in the air contaminant emissions from that source.

- "Motor Vehicle" means any self-propelled vehicle designed for transporting persons or property on a public street or highway.

- "Negative pressure enclosure" means any enclosure of an asbestos abatement project area where ambient air pressure is greater than the air pressure within the enclosure, and the air inside the enclosure is changed at least two times an hour by exhausting it through a HEPA filter.

- "Negligence" or "Negligent" means failure to take reasonable care to avoid a foreseeable risk of committing an act or omission constituting a violation.

- "New Source" means any air contaminant source not in existence prior to adoption of rules affecting that source.

- "Nonattainment Area" means a geographical area within the jurisdiction of the Authority which exceeds any federal, state or local primary or secondary ambient air quality standard as designated by the Board, the Environmental Quality Commission, or the Environmental Protection Agency.

- "Non-Condensibles" means gases and vapors, contaminated with TRS compounds, from the digestion and multiple-effect evaporation processes of a kraft mill.

- "Nonfriable asbestos-containing material" means any material containing more than one percent (1%) asbestos as determined by weight that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

- "Non-Major Source," as used in Title 38 means a stationary source which will not emit, and does not have the potential to emit, any pollutant regulated under the Clean Air Act at a Significant Emission Rate.

- "Normal Source Operation" means operations which do not include such conditions as forced fuel substitution, equipment malfunction, or highly abnormal market conditions.

- "Nuisance" means a substantial and unreasonable interference with another's use and enjoyment of real property, or the substantial and unreasonable invasion of a right common to members of the general public.

- "Odor" means the property of a substance which allows its detection by the sense of smell.
- "Off-Street Area or Space" means any area or space not located on a public road dedicated for public use.

- "Offset" means an equivalent or greater emission reduction which is required prior to allowing an emission increase from a new major source or major modification of a source.

- "Opacity" means the degree to which an emission reduces transmission of light or obscures the view of an object in the background.

- "Opacity Readings" are the individual readings which comprise a visual opacity determination.

- "Open Accumulation," as used in Title 43, means any accumulation, including storage, of friable asbestos-containing waste material other than material securely enclosed and stored as required by 43-015-18.

- "Open Burning" includes burning in open outdoor fires, burn barrels, and incinerators which do not meet emission limitations specified in Section 33-020 of these Rules, and any other outdoor burning which occurs in such a manner that combustion air is not effectively controlled and combustion products are not effectively vented through a stack or chimney.

· "Order" means:

A. Any action satisfying the definition given in ORS Chapter 183; or
B. Any other action so designated in ORS Chapter 468 or 468.A.

· "Other Sources of TRS emissions" means sources of TRS emissions in a kraft mill other than recovery furnaces and lime kilns, including but not limited to:

A. Vents from knotters, brown stock washing systems, evaporators, blow tanks, blow heat accumulators, black liquor storage tanks, black liquor oxidation system, pre-steaming vessels, tall oil recovery operation; and
B. Any vent which is shown to contribute to an identified nuisance condition.

· "Parking and Traffic Circulation Plan" means a plan developed by a city, county or regional government or regional planning agency, the implementation of which assures the attainment and maintenance of the state and local ambient air quality standards.

· "Parking Facility" means any building, structure, lot or portion thereof, designed and used primarily for the temporary storage of motor vehicles in designated parking spaces.

· "Parking Space" means any off-street area of space below, above or at ground level, open or enclosed, that is used for parking one motor vehicle at a time.

· "Particle Fallout Rate" means the weight of particulate matter which settles out of the air in a given length of time over a given area.

· "Particleboard" means mat-formed flat panels consisting of wood particles bonded together with synthetic resin or other suitable binder.
· "Particulate asbestos material" means any finely divided particles of asbestos material.

· "Particulate Matter" means any liquid or solid matter emitted to the ambient air, except uncombined water, as measured by an applicable reference method approved by the Authority.

· "Particulate Matter," as used in 33-060, means all solid or liquid material, other than uncombined water, emitted to the ambient air as measured in accordance with the Department Source Sampling Manual. Particulate matter emissions determinations shall consist of the average of three separate consecutive runs.

A. For sources tested using DEQ Method 7, each run shall have a minimum sampling time of one hour, a maximum sampling time of eight hours, and a minimum sampling volume of 31.8 dscf. Veneer dryers, wood particle dryers, fiber dryers, and press/cooling vents shall be tested with DEQ Method 7.
B. For sources tested using DEQ Method 8, each run shall have a minimum sampling time of 15 minutes and shall collect a minimum particulate sample of 100 mg. Air conveying systems shall be tested with DEQ Method 8.

- "Particulate Matter," as used in 33-070, means all solid or liquid material, other than uncombined water, emitted to the ambient air, as measured by EPA Method 5 or an equivalent test method in accordance with the Department Source Test Manual. Particulate matter emissions determinations by EPA Method 5 shall use water as the cleanup solvent instead of acetone, and consist of the average of three (3) separate consecutive runs having a minimum sampling time of 60 minutes each, a maximum sampling time of eight (8) hours each, and a minimum sampling volume of 31.8 dscf each.

- "Parts Per Million (ppm)" means parts of a contaminant per million parts of gas by volume on a dry-gas basis (1 ppm equals 0.0001% by volume).

- "Pathological waste" includes biopsy materials and all human tissues; anatomical parts that emanate from surgery, obstetrical procedures, autopsy and laboratory procedures; and animal carcasses exposed to pathogens in research and the bedding and other waste from such animals. "Pathological wastes" does not include teeth, or formaldehyde or other preservative agents (see also "infectious waste").

- "Permit" or "Air Contaminant Discharge Permit" means a written permit issued by the Authority, pursuant to LRAPA and DEQ rules and regulations.

- "Permitted Emissions," as used in title 35, means assessable emission portion of the Plant Site Emission Limit.

- "Permittee" means the owner or operator of the facility, in whose name the operation of the source is authorized by the Air Contaminant Discharge Permit or the federal operating permit.

- "Person" means any individual, public or private corporation, political subdivision, agency, board, department, or bureau of the state or federal government, municipality, partnership, association, firm, trust, estate, or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.
- "Person in Charge of Property" means an agent, occupant, lessee, tenant, contract purchaser, or other person having possession or control of property.

- "Plant Site Emission Limit (PSEL)" means the total mass emissions per unit time of an individual air pollutant specified in a permit for a source. The PSEL may consist of more than one assessable emission.

- "Plywood" means a flat panel built generally of an odd number of thin sheets of veneers of wood in which the grain direction of each ply or layer is at right angles to the one adjacent to it.

- "PM_{10}" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by an approved method as listed in 40 CFR 53.

- "PM_{10} Emissions" means emissions of finely divided solid or liquid material, other than uncombined water, with an aerodynamic diameter less than or equal to a nominal 10 micrometers, emitted to the ambient air as measured by applicable reference methods in accordance with the Department's Source Sampling Manual.

- "Population" means that population estimate most recently published by the Center for Population Research and Census, Portland State University, or any other population estimate approved by the Authority.

- "Portable Hot Mix Asphalt Plant" means a hot mix asphalt plant which is designed to be dismantled and is transported from one job site to another job site.

- "Potential to Emit" means the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a source.

- "ppm" means parts of air contaminant per million parts of air on a volume basis.

- "Presiding Officer" means the Authority, the Chairperson of its Board of Directors, Hearings Officer, the Director, or any individual designated by the Authority or the Director to preside in any contested case, public, or other hearing. Any employee of the Authority who actually presided in any such hearing is presumptively designated by the Authority or Director, such presumptive designation to be overcome only by a written statement to the contrary bearing the signature of the Chairperson or the Director.

- "Prevention of Significant Deterioration Increments" means maximum allowable ambient air quality impacts over baseline concentrations in areas designated Class I, II or III, as follows:

Micrograms Per Cubic Meter			
	Class I	Class II	Class III
Particulate Matter			
TSP Annual Geometric Mean	5	19	37
* TSP 24-Hour Maximum	10	37	75
Sulfur Dioxide			
Annual Arithmetic Mean	2	20	40
* 24-Hour Maximum	5	91	182
* 3-Hour Maximums	25	512	700
(* *For these time periods, the applicable maximum allowable increase may*			

be exceeded during one such period per year at any one location.)

- "Primary Combustion Chamber" means the discrete equipment, chamber or space in which drying of the waste, pyrolysis, and essentially the burning of the fixed carbon in the waste occurs.

- "Prior Violation" means any violation established, with or without admission, by payment of a civil penalty, by an order of default, or by a stipulated or final order of the Authority.

- "Procedures" referred to in **40 CFR 51.164** are the New Source Review procedures at the Department (OAR 340, Division 224) or at the Authority (Title 38) and the review procedures for new minor sources or modifications to existing minor sources, at the Department (OAR 340-0200 to 0220, 340 Division 216) or at the Authority (34-035).

- "Process Unit" includes all equipment and appurtenances for the processing of bulk material which are united physically by conveyor or chute or pipe or hose for the movement of product material provided that no portion or item of the group will operate separately with product material not common to the group operation. Such a grouping is considered encompassing all the equipment used from the point of initial charging or feed to the point or points of discharge of material where such discharge will:

  A. Be stored,
  B. Proceed to a separate process, or
  C. Be physically separated from the equipment comprising the group.

- "Process Upset" means a failure or malfunction of a production process or system to operate in a normal and usual manner.

- "Process Weight" means total weight of the materials, including solid fuels but not including liquid and gaseous fuels and combustion air introduced into any process unit which may cause any emission into the atmosphere.

- "Process Weight by Hour, "as used in 33-075, means the total weight of all materials introduced into any specific process which process may cause any discharge into the atmosphere. Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. The "process weight per hour" will be derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle.

- "Production (Kraft Mill)" means the daily amount of air-dried unbleached pulp, or equivalent, produced during the 24-hour period each calendar day, or Authority-approved equivalent period, and expressed in air-dried metric tons (admt) per day. The corresponding English unit is air-dried tons (adt) per day.

- "Propellant" means a fuel and oxidizer physically or chemically combined containing beryllium or beryllium compounds, which undergoes combustion to provide rocket propulsion.

- "Propellant plant" means any facility engaged in the mixing, casting, or machining of propellant.

- "Public nuisance" see "Nuisance to the Public."

- "Reasonable Receptor and Exposure Sites" means locations where people might reasonably be expected to be exposed to air contaminants generated in whole or in part by the indirect source in question. Location of ambient air sampling sites and methods of sample collection shall conform to criteria on file with the Department of Environmental Quality.

- "Reckless" or "recklessly" means conduct by a person who is aware of and consciously disregards a substantial and unjustifiable risk that the result will occur or that the circumstance exists. The risk must be of such a nature and degree that disregard thereof constitutes a gross deviation from the standard of care a reasonable person would observe in that situation.

- "Recovery Furnace (Kraft Mill)" means the combustion device in which dissolved wood solids are incinerated and pulping chemicals recovered from the molten smelt. For these regulations, and where present, this term shall include the direct contact evaporator.

- "Reference Method" means any EPA approved method. (The methods are listed in the state Department of Environmental Quality's Source Sampling Manual.)

- "Refuse" means unwanted matter.

- "Refuse Burning Equipment" means a device designed to reduce the volume of refuse by combustion.

- "Regional Authority" means a regional air quality control authority established under the provisions of ORS 468.505.

- "Regional Planning Agency" means any planning agency which has been recognized as a substate-clearinghouse for the purposes of conducting project review under the United States Office of Management and Budget Circular Number A-95, or other governmental agency having planning authority.

- "Renovate" or "Renovation" means altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or removed are considered demolition and are not included in the definition of renovation.

- "Residential Area" means land which is zoned or used for single or multiple family or suburban residential purposes.

- "Residential Open Burning" means the open burning of clean wood, yard trimmings and prunings which are actually generated in or around a dwelling for four (4) or fewer family living units. Once this material is removed from the property of origin it becomes commercial waste.

Such materials actually generated in or around a dwelling of more than four (4) family living units are commercial wastes.

· "Residual Fuel Oil" means any oil meeting the specifications of ASTM Grade 4, Grade 5 or Grade 6 fuel oils.

· "Resource Recovery Facility" means any facility at which municipal solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing municipal solid waste for reuse. Energy conversion facilities must utilize municipal solid waste to provide fifty (50) percent or more of the heat input to be considered a resource recovery facility.

· "Respondent" means the person to whom a formal enforcement action is issued.

· "Responsible Person" means each person who is in ownership, control, or custody of the property on which the open burning occurs, including any tenant thereof; or who is in ownership, control, or custody of the materials which are burned; or any person who causes or allows open burning to be initiated or maintained.

· "Reviewing Agency," where found in the federal rule, means the Authority, the Department, or the EPA, as applicable.

· "Ringelmann Chart" means the Ringelmann Smoke Chart with instructions for use as published in May, 1967, by the United Stated Bureau of Mines.

· "Risk of Harm" means the level of risk to public health or the environment created by the likelihood of exposure, either individual or cumulative, or the actual damage, either individual or cumulative, caused by a violation.

· "Roadways" mean surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

· "Rule" means any agency directive, regulation or statement of general applicability that implements, interprets or prescribes law or policy, or describes the procedure or practice requirement of any agency. The term includes the amendment or repeal of a prior rule, but does not include:

A. Internal management directives, regulations or statements between agencies, or their officers or their employees, or within an agency, between its officers or between employees, unless hearing is required by statute, or action by agencies directed to other agencies or other units of government.

B. Declaratory rulings issued pursuant to ORS 183.410 or 305.105.

· "Salvage," as used in Title 47, means the recovery, processing or use of woody debris for purposes including, but not limited to, energy production (such as fire wood or fuel), fiber production (such as soil amendments or mulch), or as a raw material for chemical or manufacturing processes.

· "Secondary (or Final) Combustion Chamber" means the discrete equipment, chamber, or space, excluding the stack, in which the products of pyrolysis are combusted in the presence of excess air, such that essentially all carbon is burned to carbon dioxide.

· "Secondary Emissions" means emissions from new or existing sources which occur as a result of the construction and/or operation of a source or modification, but do not come from the source itself. Secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the source associated with the secondary emissions. Secondary emissions may include, but are not limited to:

A. Emissions from ships and trains coming to or from a facility;
B. Emissions from off-site support facilities which would be constructed or would otherwise increase emissions as a result of the construction of a source or modification.

· "Sensitive Area" means locations which are actual or potential air quality non-attainment areas, as determined by LRAPA.

· "Sharps" includes needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling, and syringes that have been removed from their original sterile containers (see also "infectious waste").

· "Shutdown," as used in Titles 30 and 36, means that time during which normal operation of an air contaminant source or emission control equipment is terminated.

· "Significant Air Quality Impact" means an ambient air quality impact which is equal to or greater than:

Pollutant Averaging Time					
Pollutant	Annual	24-Hour	8-Hour	3-Hour	1-Hour
SO_2	1.0 $\mu g/m^3$	5 $\mu g/m^3$	—	25 $\mu g/m^3$	—
TSP or PM_{10}	0.2 $\mu g/m^3$	1.0 $\mu g/m^3$	—	—	—
NO_2	1.0 $\mu g/m^3$	—	—	—	—
CO	—	—	0.5 mg/m^3	—	2 $mg.m^3$

For sources of volatile organic compounds (VOC), a major source or major modification will be deemed to have a significant impact if it is located within thirty (30) kilometers of an ozone nonattainment area and is capable of impacting the nonattainment area.

· "Significant Emission Rate" means:

A. Emission rates equal to or greater than the following for air pollutants regulated under the Clean Air Act:

Significant Emission Rates for Pollutants Regulated Under the Clean Air Act	
Significant Pollutant	**Emission Rate**
1. Carbon Monoxide	100.00 Tons/Year
2. Nitrogen Oxides	40.0 Tons/Year
3. Particulate Matter	25.0 Tons/Year
4. PM_{10}	15.0 Tons/Year
5. Sulfur Dioxide	40.0 Tons/Year
6. VOCs	40.0 Tons/Year
7. Lead	0.60 Tons/Year
8. Mercury	0.10 Tons/Year
9. Beryllium	0.0004 Tons/Year
10. Asbestos	0.007 Tons/Year
11. Vinyl Chloride	1.0 Tons/Year
12. Fluorides	3.0 Tons/Year
13. Sulfuric Acid Mist	7.0 Tons/Year
14. Hydrogen Sulfide	10.0 Tons/Year
15. Total Reduced Sulfur (including hydrogen sulfide)	10.0 Tons/Year
16. Reduced Sulfur Compounds (including hydrogen sulfide)	10.0 Tons/Year

B. For pollutants not listed above, the Authority shall determine the rate that constitutes a significant emission rate.

C. Any emissions increase less than these rates associated with a new source or modification which would construct within ten (10) kilometers of a Class I area and would have an impact on such area equal to or greater than 1 ug/m^3 (24-hour average) shall be deemed to be emitting at a significant emission rate.

"Significant Impairment" occurs when visibility impairment, in the judgement of the Authority, interferes with the management, protection, preservation, or the enjoyment of the visual experience of visitors within a Class I area. The determination will be made on a case-by-case basis, considering the recommendation of the Federal Land Manager, the geographic extent, intensity, duration, frequency, and time of visibility impairment. These factors will be

considered with respect to visitor use of the Class I Area, and the frequency and occurrence of natural conditions that reduce visibility.

"Significant Upgrading of Pollution Control Equipment" means a modification or a rebuild of an existing pollution control device for which a capital expenditure of 50 percent or more of the replacement cost of the existing device is required, other than ongoing routine maintenance.

"Slash" means forest debris of woody vegetation to be burned under the Oregon Smoke Management Plan administered by the Oregon Department of Forestry pursuant to ORS. 477.515. The burning of such slash is related to the management of forest land and does not include the burning of any other material created by land clearing.

"Small-scale asbestos abatement project" means any short-duration asbestos abatement project as defined in 41, below, and/or removal, renovation, encapsulation, repair, or maintenance procedures intended to prevent asbestos containing material from releasing fibers into the air and which:

A. Remove, encapsulate, repair or maintain less than 40 linear feet or 80 square feet of asbestos-containing material;
B. Do not subdivide an otherwise full-scale asbestos abatement project into smaller-sized units in order to avoid the requirements of these rules;
C. Utilize all practical worker isolation techniques and other control measures; and
D. Do not result in worker exposure to an airborne concentration of asbestos in excess of 0.1 fibers per cubic centimeter of air calculated as an eight (8) hour time-weighted average.

"Small-scale, short-duration activity" means a task for which the removal of asbestos is not the primary objective of the job, including, but not limited to:

A. Removal of asbestos-containing insulation on pipes, not to exceed amounts greater than those which can be contained in a single glove bag;
B. Removal of small quantities of asbestos-containing insulation on beams or above ceilings;
C. Replacement of an asbestos-containing gasket on a valve;
D. Installation or removal of a small section of drywall;
E. Installation of electrical conduits through or proximate to asbestos-containing materials;
F. Minor repairs to damaged thermal system insulation which does not require removal;
G. Repairs to asbestos-containing wallboard; or
H. Repairs involving encapsulation, enclosure, or removal of small amounts of friable asbestos-containing material in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.
I. No such activity described above shall result in airborne asbestos concentrations above 0.1 fibers per cubic centimeter of air (calculated on an 8-hour weighted average).

Small-scale activities shall be limited to no more than forty (40) linear feet or eighty (80) square feet of asbestos-containing materials. An activity that would otherwise qualify as a full-scale abatement project shall not be subdivided into smaller units in order to avoid the requirements of these rules.

- "Smelt dissolving tank vent (Kraft Mill)" means the vent serving the vessel used to dissolve the molten smelt produced by the recovery furnace.

- "Smoke" means small gas-borne particles resulting from incomplete combustion, consisting predominantly of carbon, ash and other combustible materials present in sufficient quantity to be observable.

- "Solid Waste" means refuse, more than 50% of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as metal, glass, and rock.

- "Solid Waste Incinerator" means an incinerator which is operated or utilized for the disposal or treatment of solid waste, including combustion for the recovery of heat.

- "Source," means any building, structure, facility, installation or combination thereof which emits or is capable of emitting air contaminants to the atmosphere and is located on one or more contiguous or adjacent properties and is owned or operated by the same person or by persons under common control.

- "Source," as used in LRAPA Title 38, New Source Review, and the definitions of "BACT," "Commenced," "Construction," "Emission Limitation," "Emission Standard," "LAER," "Major Modification, " "Major Source," "Potential to Emit," and "Secondary Emissions" as these terms are used for purposes of LRAPA Title 38, includes all pollutant-emitting activities which belong to a single major industrial group (i.e., which have the same two-digit code), as described in the Standard Industrial Classification Manual, (U. S. Office of Management and Budget, 1987) or are supporting the major industrial group.

- "Source Category" means a group of major sources determined by the Authority to be using similar raw materials and having equivalent process control and pollution control equipment.

- "Source Test" means the average of at least three test runs during operating conditions representative of the period for which emissions are to be calculated, conducted in accordance with the Department's Source Sampling Manual or other Authority-approved methods.

- "Special Control Areas," as used in 33-075, means any location within:

  A. Benton, Clackamas, Columbia, Lane, Linn, Marion, Multnomah, Polk, Washington and Yamhill Counties;
  B. Any incorporated city or within six (6) miles of the city limits of said incorporated city;
  C. Any area of Lane County within one (1) mile of any structure or building used for a residence;
  D. Any area of Lane County within two (2) miles straight-line distance or air miles of any paved public road, highway, or freeway having a total of two (2) or more traffic lanes.

- "Special Problem Area" means the formally designated Eugene/Springfield AQMA and other specifically defined areas that the Board and the Environmental Quality Commission may formally designate in the future.

- "Standard Conditions" means a gas temperature of sixty-eight (68) degrees Fahrenheit and a gas pressure of 29.92 inches of mercury.

- "Standard Cubic Foot (SCF)" means that amount of gas which would occupy a cube having dimensions of one foot on each side, if the gas were free of water vapor at standard conditions.

- "Standard Dry Cubic Meter" means the amount of gas that would occupy a volume of one cubic meter, if the gas were free of uncombined water, at a temperature of 20° C. (68° F.) and a pressure of 760 mm of Mercury (29.92 inches of Mercury). The corresponding English unit is standard dry cubic foot. When applied to recovery furnace gases, "standard dry cubic meter" requires adjustment of the gas volume to that which would result in a concentration of 8% oxygen if the oxygen concentration exceeds 8%. When applied to lime kiln gases, "standard dry cubic meter" requires adjustment of the gas volume to that which would result in a concentration of 10% oxygen if the oxygen concentration exceeds 10%. The mill shall demonstrate that oxygen concentrations are below noted values or furnish oxygen levels and corrected pollutant data.

- "Startup/Shutdown" means the time during which an air contaminant source or emission control equipment is brought into normal operation and normal operation is terminated, respectively.
- "Shutdown," as used in Titles 30 and 36, means that time during which normal operation of an air contaminant source or emission control equipment is terminated.

- "Startup," means that time during which an air contaminant source or emission control equipment is brought into normal operation.

- "Startup," as used in Title 46, means commencement of operation of a new or modified source resulting in release of contaminants to the ambient air.

- "State" or "State or Local Control Agency," where found in **40 CFR 51.118**, means the Authority or the Department.

- "Structural member" means any load-supporting member, such as beams and load-supporting walls, or any non-supporting member, such as ceilings and non-load-supporting walls.

- "Substantial Underpayment" means the lesser of ten percent (10%) of the total interim emission fee for the major source or five hundred dollars ($500).

- "Tempering Oven" means any facility used to bake hardboard following an oil treatment process.

- "Threshold Level of Olfactory Detection" means the odor perception threshold for fifty percent (50%) of the odor panel as determined by the ASTM procedure DI 391-57 Standard Method of Measurement of Odor in Atmospheres (Dilution method), or an equivalent method.

- "Total Reduced Sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, and any other organic sulfides present, expressed as hydrogen sulfide (H_2S).

- "Transmissometer" means a device that measures opacity and conforms to EPA specification Number 1 in Title 40 CFR, Part 60, Appendix B.

- "TSP" means particulate matter as measured by an reference method.

- "Typically Achievable Control Technology" or "TACT" means the emission limit established on a case-by-case basis for a criteria pollutant from a particular emissions unit in accordance with Section 32-008. For existing sources, the emissions limit established shall be typical of the emission level achieved by emissions units similar in type and size. For new and modified sources, the emission limit established shall be typical of the emission level achieved by well-controlled new or modified emissions units similar in type and size that were recently installed. TACT determinations shall be based on information known to the Authority considering pollution prevention, impacts on other environmental media, energy impacts, capital and operating costs, cost effectiveness, and the age and remaining economic life of existing emission control equipment. The Authority may consider emission control technologies typically applied to other types of emissions units where such technologies could be readily applied to the emissions unit. If an emission limitation is not feasible, a design, equipment, work practice, or operational standard, or combination thereof, may be required.

- "Unavoidable" means events which are not caused entirely or in part by poor or inadequate design, operation, maintenance, or any other preventable condition in either process or control equipment.

- "Uncombined Water" means water which is not chemically bound to a substance.

- "Upset" or "Breakdown" mean any failure or malfunction of any pollution control equipment or process equipment which may cause excess emissions.

- "Vehicle Trip" means a single movement by a motor vehicle which originates or terminates at or uses an Indirect Source.

- "Veneer" means a single flat panel of wood not exceeding one-quarter (1/4) inch in thickness, formed by slicing or peeling from a log.

- "Veneer Dryer" means equipment in which veneer is dried.

- "Verified Emission Factor" means an emission factor approved by the Authority and developed for a specific major source or source category and approved for application to that major source by the Authority.

- "Violation" means a transgression of any statute, rule, order, license, permit, or any part thereof, and includes both acts and omissions. Violations shall be classed according to risk of harm as follows:

  A. "Class One or I" means any violation which poses a major risk of harm to public health or the environment, or violation of any compliance schedule contained in an agency permit or board order;

B. "Class Two or II" means any violation which poses a moderate risk of harm to public health or the environment;
C. "Class Three or III" means any violation which poses a minor risk of harm to public health or the environment.

"Visual Opacity Determination" consists of a minimum of twenty-four (24) opacity readings recorded every fifteen (15) seconds and taken by a trained observer.

"Visibility Impairment" means any humanly perceptible change in visual range, contrast, or coloration from that which would have existed under natural conditions. Natural conditions include fog, clouds, windblown dust, rain, sand, naturally ignited wildfires, and natural aerosols.

"Volatile Organic Compound" or "VOC" means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

A. This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity in the formation of tropospheric ozone: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114; chloropentafluoroethane (CFC-115); 1,1,1-trifluoro-2,2-dichloroethane (HCFC-123); 1.1.1.2-tetrafluoroethane (HFC-134a); 1,1-dichloro-1-fluoroethane (HCFC-141b); 1-chloro-1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); HCFC 225ca and cb; HFC 43-10mee; pentafluoroethane [2] (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tertrachloroethylene); difluorormethane (HFC-32); ethylfluoride (HFC-161); 1,1,1,3,3,3-hexafluoropropane (HFC-236fa); 1,1,2,2,3-pentafluoropropane (HFC-245ca); 1,1,2,3,3-pentafluoropropane (HFC-245ea); 1,1,1,2,3-pentafluoropropane (HFC-245eb); 1,1,1,3,3-pentafluoropropane (HFC-245fa); 1,1,1,2,3,3-hexafluoropropane (HFC-236ea); 1,1,1,3,3-pentafluorobutane (HFC-365mfc); chlorofluoromethane (HCFC-31); 1 chloro-1-fluoroethane (HCFC-151a); 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a); 1,1,1,2,2,3,3,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$); 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OCH_3$); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ($(CF_3)_2CFCF_2OC_2H_5$); methyl acetate; and perfluorocarbon compounds which fall into these classes:
   (1) Cyclic, branched, or linear, completely fluorinated alkanes;
   (2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
   (3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
   (4) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
B. For purposes of determining compliance with emissions limits, VOC will be measured by an applicable reference method in accordance with the Department's **Source Sampling**

Manual, January, 1992. Where such a method also measures compounds with negligible photochemical reactivity, the latter may be excluded as VOC if the amount of such compounds is accurately quantified, and the Authority approves the exclusion.

C. The Authority may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Authority, the amount of negligibly reactive compounds in the source's emissions.

- "Volatile Organic Compound (VOC)," as used in Title 35, means any organic compound which would be emitted during use, application, curing or drying of a surface coating, solvent, or other material. Excluded from this definition are those compounds which EPA classifies as having negligible photochemical reactivity, which include: methane, ethane, methylene chloride, 1,1,1--trichloroethane (methyl chloroform), trichlorofluoromethane (CFC-11), dichlorofluoromethane (CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (FC-23), trichlorotetrafluoroethane (CFC-114), and chloropentafluoroethane (CFC 115).

- "Waste generator" means any person performing an asbestos abatement project or any owner or operator of a source covered by this section whose act or process generates asbestos-containing waste material.

- "Waste shipment record" means the shipment document, required to be originated and signed by the waste generator; used to track and substantiate the disposition of asbestos-containing waste material.

- "Wigwam Waste Burner" means a burner which consists of a single combustion chamber, which has the general features of a truncated cone and is used for incineration of refuse.

- "Wood-Fired Veneer Dryer" means a veneer dryer which is directly heated by the products of combustion of wood fuel in addition to or exclusive of steam or natural gas or propane combustion.

- "Woody Yard Trimmings" means woody limbs, branches and twigs, with any attached leaves, which have been cut from or fallen from trees or shrubs from the property around a dwelling unit.

- "Yard Debris" means wood, needle, or leaf materials from trees, shrubs, or plants from the property around a dwelling unit.

LANE REGIONAL AIR POLLUTION AUTHORITY

TITLE 32

EMISSION STANDARDS

Section 32-001 Definitions

See Title 12, Definitions.

Section 32-005 Highest and Best Practicable Treatment and Control Required

1. **As specified in 32-006 through 32-009 and subsections 2 through 6 of this section, the highest and best practicable treatment and control of air contaminant emissions shall in every case be provided so as to maintain overall air quality at the highest possible levels, and to maintain contaminant concentrations, visibility reduction, odors, soiling and other deleterious factors at the lowest possible levels. In the case of new sources of air contamination, particularly those located in areas with existing high-level air quality, the degree of treatment and control provided shall be such that degradation of existing air quality is minimized to the greatest extent possible.**

2. **A source shall be deemed to be in compliance with subsection 1 of this section if the source is in compliance with all other applicable emission standards and requirements contained in LRAPA Titles 32 through 51 and OAR Divisions 28 and 32, including but not limited to requirements applicable to:**

   A. **specific pollutants in Title 32;**

   B. **specific existing and new source categories in Title 33;**

   C. **hazardous air pollutants in OAR 340-32;**

   D. **control requirements and operational and maintenance requirements in sections 32-007 through 32-009; and**

   E. **review of new major sources and major modifications in Title 38.**

3. **The Authority may adopt additional rules as necessary to ensure that the highest and best practicable treatment and control is provided as specified in subsection 1 of this section. Such rules may include, but are not limited to, the following requirements:**

   A. **Applicable to a source category, pollutant or geographic area of Lane County;**

B. Necessary to protect public health and welfare for air contaminants that are not otherwise regulated by the Authority; or

C. Necessary to address the cumulative impact of sources on air quality.

4. The Authority encourages the owner or operator of a source to further reduce emissions from the source beyond applicable control requirements where feasible.

5. Nothing in sections 32-005 through 32-009 revokes or modifies any existing permit term or condition unless or until the Authority revokes or modifies the term or condition by a permit revision. Adoption of 32-005 is not intended to withdraw authority for application of any existing policy for new sources of toxic and hazardous air pollutants to a federal operating permit program source until the effective date of the program.

6. Compliance with a specific emission standard in these rules does not preclude the required compliance with any other applicable emission standard.

Section 32-006 Pollution Prevention

The owner or operator of a source is encouraged to take into account the overall impact of the control methods selected, considering risks to all environmental media and risks from all affected products and processes. The owner or operator of a source is encouraged, but not required, to utilize the following hierarchy in controlling air contaminant emissions:

1. Modify the process, raw materials or product to reduce the toxicity and/or quantity of air contaminants generated;

2. Capture and reuse air contaminants;

3. Treat to reduce the toxicity and/or quantity of air contaminants released; or

4. Otherwise control emissions of air contaminants.

Section 32-007 Operating and Maintenance Requirements

1. Operational, Maintenance and Work Practice Requirements

A. Where the Authority has determined that specific operational, maintenance, or work practice requirements are appropriate to ensure that the owner or operator of a source is operating and maintaining air pollution control equipment and emission reduction processes at the highest reasonable efficiency and effectiveness to minimize emissions, the Authority shall establish such requirements by permit condition or Notice of Construction (NOC) approval.

B. Operational, maintenance and work practice requirements include, but are not limited to:

(1) flow rates, temperatures and other physical or chemical parameters related to the operation of air pollution control equipment and emission reduction processes;

(2) monitoring, record-keeping, testing and sampling requirements and schedules;

(3) maintenance requirements and schedules; or

(4) requirements that components of air pollution control equipment be functioning properly.

2. Emission Action Levels

A. Where the Authority has determined that specific operational, maintenance, or work practice requirements considered or required under subsection 1 of this section are not sufficient to ensure that the owner or operator of a source is operating and maintaining air pollution control equipment and emission reduction processes at the highest reasonable efficiency and effectiveness, the Authority may establish, by permit or Notice of Construction (NOC) approval, specific emission action levels in addition to applicable emission standards. An emission action level shall be established at a level which ensures that air pollution control equipment or an emission reduction process is operated at the highest reasonable efficiency and effectiveness to minimize emissions.

B. If emissions from a source equal or exceed the applicable emission action level, the owner or operator of the source shall:

(1) take corrective action as expeditiously as practical to reduce emissions to below the emission action level;

(2) maintain records at the plant site for two (2) years which document the exceedance, the cause of the exceedance, and the corrective action taken;

(3) make such records available for inspection by the Authority during normal business hours; and

(4) submit such records to the Authority upon request.

C. The Authority shall revise an emission action level if it finds that such level does not reflect the highest reasonable efficiency and effectiveness of air pollution control equipment and emission reduction processes.

D. An exceedance of an emission action level which is more stringent than an applicable emission standard shall not be a violation of such emission standard.

3. In determining the highest reasonable efficiency and effectiveness for purposes of this rule, the Authority shall take into consideration operational variability and the capability of air pollution control equipment and emission reduction processes. If the performance

of air pollution control equipment and emission reduction processes during start-up or shut-down differs from the performance under normal operating conditions, the Authority shall determine the highest reasonable efficiency and effectiveness separately for these start-up and shut-down operating modes.

Section 32-008 Typically Achievable Control Technology (TACT)

1. Existing Sources. The Authority shall require an existing emissions unit to meet TACT for existing sources if:

   A. the emissions unit, for the pollutants emitted, is not subject to emissions standards under Title 32, Title 33, Title 39 or Title 46 at the time TACT is required;

   B. the source is required to have a permit;

   C. the emissions unit has emissions of criteria pollutants equal to or greater than five (5) tons per year of particulate or ten (10) tons per year of any gaseous pollutant; and

   D. The Authority determines that air pollution control equipment and emission reduction processes in use for the emissions unit do not represent TACT and that further emission control is necessary to address documented nuisance conditions, address an increase in emissions, ensure that the source is in compliance with other applicable requirements, or to protect public health or welfare or the environment.

2. New and Modified Sources. The Authority shall require a new or modified emissions unit to meet TACT for new or modified sources if:

   A. the new or modified emissions unit, for the pollutants to be emitted, is not subject to New Source Review requirements in Title 38, an applicable Standard of Performance for New Stationary Sources in Title 46, or any other standard applicable only to new or modified sources in Title 32, Title 33, or Title 39 at the time TACT is required;

   B. the source is required to have a permit.

   C. the emissions unit:

      (1) if new, would have emissions of any criteria pollutant equal to or greater than 1 ton per year, or of PM_{10} equal to or greater than 500 pounds per year in a PM_{10} nonattainment area; or

      (2) if modified, would have an increase in emissions from the permitted level for the emissions unit of any criteria pollutant equal to or greater than 1 ton per year, or of PM_{10} equal to or greater than 500 pounds per year in a PM_{10} nonattainment area; and

   D. the Authority determines that the proposed air pollution control equipment and emission reduction processes do not represent TACT.

3. Prior to making a TACT determination, the Authority shall notify the owner or operator of a source of its intent to make such determination utilizing information known to the Authority. The owner or operator of the source may supply the Authority with additional information by a reasonable date set by the Authority for use in making the TACT determination.

4. The owner or operator of a source subject to TACT shall submit compliance plans and specifications by a reasonable date established by the Authority for approval by the Authority. The owner or operator of the source shall demonstrate compliance in accordance with a method and compliance schedule approved by the Authority.

Section 32-009 Additional Control Requirements for Stationary Sources of Air Contaminants

The Authority shall establish control requirements in addition to otherwise applicable requirements by permit, if necessary, as specified in section 1 through 5 of this section.

1. Requirements shall be established to prevent violation of an Ambient Air Quality Standard caused or projected to be caused substantially by emissions from the source as determined by modeling, monitoring or a combination thereof. For existing sources, the violation of an Ambient Air Quality Standard shall be confirmed by monitoring conducted by the Authority.

2. Requirements shall be established to prevent significant impairment of visibility in Class I areas caused or projected to be caused substantially by a source as determined by modeling, monitoring or a combination thereof. For existing sources, the visibility impairment shall be confirmed by monitoring conducted by the Authority.

3. A requirement applicable to major source shall be established if it has been adopted by EPA but has not otherwise been adopted by the EQC or the LRAPA Board.

4. An additional control requirement shall be established if requested by the owner or operator of a source.

5. Additional controls may be required to achieve air contaminant reduction as part of a State Implementation Plan.

Section 32-010 Visible Air Contaminant Limitations

1. Except as provided in Subsection 2, no person shall cause, suffer, allow, or permit the emission of any air contaminant into the atmosphere from any air contaminant source for a period or periods aggregating more than three minutes in any one hour which is:

   A. As dark or darker in shade than that designated as No. 1 on the Ringelmann Chart; or

   B. Equal to or greater than 20 percent opacity.

2. Existing Fuel Burning Equipment Utilizing Wood Wastes (any source installed, constructed or modified before June 1, 1970). No person shall discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

   a. As dark or darker in shade than that designated as No. 2 on the Ringelmann Chart; or

   b. Equal to or greater than 40 percent opacity.

3. Exception--Visible Air Contaminant Standards. Uncombined Water. Where the presence of uncombined water is the only reason for failure of any emission to meet the requirements of Section 32-010-1 or 2, such section shall not apply.

4. Veneer Dryers (moved to Title 33, section 33.060-2.A)

Section 32-015 Particulate Matter Weight Standards

Notwithstanding emission limits of Sections 32-020 and 32-030, particulate emissions shall not exceed:

1. 0.2 grain per standard dry cubic foot for any air contaminant source constructed or modified prior to June 1, 1970; or

2. 0.1 grain per standard dry cubic foot for any air contaminant source installed, constructed or modified after June 1, 1970.

Section 32-020 Particulate Matter Weight Standards - Existing Combustion Sources

The maximum allowable emission of particulate matter from any existing combustion source (sources installed, constructed or modified prior to June 1, 1970) shall not exceed 0.2 grain per cubic foot of exhaust gas, adjusted to 50 percent excess air or calculated to 12 percent carbon dioxide.

Section 32-030 Particulate Matter Weight Standards - New Combustion Sources

The maximum allowable emission of particulate matter from any new combustion source (sources installed, constructed or modified after June 1, 1970) shall not exceed 0.1 grain per cubic foot of exhaust gas, adjusted to 50 percent excess air or calculated to 12 percent carbon dioxide.

Section 32-045 Process Weight Emission Limitations

A. The maximum allowable emissions of particulate matter for specific processes shall be a function of process weight and shall be determined from Table 1.

B. The maximum allowable emissions of particulate matter from hot mix asphalt plants shall be determined from Table 1 except that the maximum allowable particulate emissions

from processes greater than 60,000 pounds per hour shall be limited to 40 pounds per hour.

Section 32-055 Particulate Matter Size Standard

No person shall cause or permit the emissions of any particulate matter which is greater than 250 microns in size if such particulate matter does or will deposit upon the real property of another person.

Section 32-060 Air Conveying Systems

1. Affected Sources

   Dry material air conveying systems located within the Eugene/Springfield PM_{10} Nonattainment Area which use a cyclone or other mechanical separating device and which have a baseline year emission rate of three (3) Metric Tons or more of particulate matter are affected sources.

2. Emission Limits for Affected Sources

   Notwithstanding the general and specific emission standards and regulations contained in these rules, affected sources shall not emit particulate matter to the atmosphere in excess of the following amounts:

   A. One (1) Metric Ton/year (1.10 Tons/year)

   B. 2.88 kg/day (6.24 lbs./day)

GASEOUS EMISSION LIMITATIONS

Section 32-065 Sulfur Content of Fuels

1. Residual Fuel Oils

   No person shall sell, distribute, use or make available for use, any residual fuel oil containing more than 1.75 percent sulfur by weight.

2. Distillate Fuel Oils

   No person shall sell, distribute, use or make available for use, any distillate fuel oil containing more than the following percentages of sulfur:

   A. ASTM Grade 1 fuel oil - 0.3 percent by weight

   B. ASTM Grade 2 fuel oil - 0.5 percent by weight

3. Coal

A. Except as provided in sub-section B of this section, no person shall sell, distribute, use or make available for use, any coal containing greater than 1.0 percent sulfur by weight.

B. Except as provided for sub-subsections D and E of this subsection, no person shall sell, distribute, use or make available for use any coal or coal-containing fuel with greater than 0.3% sulfur and 5% volatile matter as defined in ASTM Method D3175 for direct space heating within the Eugene-Springfield or Oakridge PM10 Air Quality Maintenance Areas. For coals subjected to a devolatilization process, compliance with the sulfur limit may be demonstrated on the sulfur content of coal prior to the devolatilization process.

C. Distributors of coal or coal-containing fuel destined for direct residential space heating use shall keep records for a five-year period which shall be available for LRAPA inspection and which:

(1) specify quantities of coal or coal-containing fuels sold;

(2) contain name and address of customers who are sold coal or coal-containing fuels;

(3) specify the sulfur and volatile content of coal or the coal-containing fuel sold to residences in the Eugene-Springfield or Oakridge PM10 Air Quality Maintenance Areas.

D. Users of coal for direct residential space heating in 1980 who apply in writing by July 1, 1983 and receive written approval from the Authority shall be exempted from the requirement of sub-subsection B of this subsection provided they certify that they used more than one-half (1/2) ton of coal in 1980.

E. Distributors may sell coal not meeting specification in sub-subsection B of this subsection to those users who have applied for and received the exemption provided for in subsection D of this section.

4. Exemptions. Exempted from the requirements of 32-065.1-3, above, are:

A. Fuels used exclusively for the propulsion and auxiliary power requirements of vessels, railroad locomotives and diesel motor vehicles.

B. With prior approval of the Authority, fuels used in such a manner or control provided such that sulfur dioxide emissions can be demonstrated to be equal to or less than those resulting from the combustion of fuels complying with the limitations of 32-065.

Section 32-070 Sulfur Dioxide Emission Limitations

Fuel Burning Equipment: The following emissions standards are applicable to new sources (any air contaminant source installed, constructed or modified after January 1, 1972) only:

1. For fuel burning equipment having more than 150 million BTU per hour heat input, but not more than 250 million BTU per hour input, no person shall cause, suffer, allow or permit the emission into the atmosphere of sulfur dioxide in excess of:

   A. 1.4 lb. per million BTU heat input, maximum 2-hour average, when liquid fuel is burned.

   B. 1.6 lb. per million BTU heat input, maximum 2-hour average, when solid fuel is burned.

2. For fuel burning equipment having more than 250 million BTU per hour heat input, no person shall cause, suffer, allow or permit the emission into the atmosphere of sulfur dioxide in excess of:

   A. 0.8 lb. per million BTU heat input, maximum 2-hour average, when liquid fuel is burned.

   B. 1.2 lb. per million BTU heat input, maximum 2-hour average, when solid fuel is burned.

Section 32-075 Federal Acid Rain Regulations Adopted by Reference

1. 40 CFR Part 72 (July 1, 1994) is by this reference adopted and incorporated herein, for purposes of implementing an acid rain program that meets the requirements of Title IV of the Clean Air Act. The term "permitting authority" shall mean the Lane Regional Air Pollution Authority, and the term "Administrator" shall mean the Administrator of the United States Environmental Protection Agency.

2. If the provisions or requirements of 40 CFR Part 72 conflict with or are not included in OAR 340-28-2100 through 340-28-2740, the Part 72 provisions and requirements shall apply and take precedence.

Section 32-080 Control of Ozone-Depleting Chemicals

1. The purpose of Section 32-080 is to reduce the use of stratospheric ozone-depleting chemicals, to recycle those chemicals already in use, and to encourage the use of less dangerous chemicals. The LRAPA Board of Directors, having determined that equipment for the recovery and recycling of chlorofluorocarbons (CFC) from automobile air conditioners is affordable and available, intends that Section 32-080 apply to persons handling automobile air conditioners.

2. Requirement for recycling automobile air conditioning coolant are as follows:

   A. Except as provided in sub-subsection B of this subsection, no person shall engage in the business of installing, servicing, repairing, disposing of, or otherwise treating automobile air conditioners without recovering and recycling CFC.

B. Any automobile repair shop that has:

(1) fewer than four employees; or

(2) fewer than three covered bays shall comply with the provisions of sub-subsection A of this subsection after August 10, 1992.

C. Only recovery and recycling equipment that is certified by Underwriters Laboratory (UL) as meeting the requirements and specifications of UL1963 and the Society of Automotive Engineers (SAE) Standards, J1990 and J1991, or other requirements and specifications determined by the Authority as being equivalent, shall be used.

D. All recovery and recycling equipment shall be operated and maintained at full efficiency and effectiveness according to the manufacturer's directions and guidelines contained in SAE Standard J1989.

3. Except as provided in subsection 4 of this section, 40 CFR Part 82 (July 1, 1994) is by this reference adopted and incorporated herein for major sources only, for purposes of implementing a stratospheric ozone protection program that meets the requirements of Title VI of the Clean Air Act.

4. Where "Administrator" or "EPA" appears in 40 CFR Part 82, "Authority" shall be substituted, except in any section of 40 CFR Part 82 for which a federal rule or delegation specifically indicates that authority will not be delegated to the state/local agency.

5. Where a discrepancy is determined to exist between LRAPA Section 32-080 and 40 CFR Part 82, 40 CFR Part 82 will apply.

Section 32-090 Other Emissions

1. No person shall discharge from any source whatsoever such quantities of air contaminants which cause injury or damage to any persons, the public, business or property. Such determination is to be made by the Authority.

2. No person shall cause or permit emission of water vapor if the water vapor causes or tends to cause detriment to the health, safety or welfare of any person or causes, or tends to cause damage to property or business.

Section 32-095 Fugitive Emissions

See LRAPA Title 48 for rules pertaining to fugitive emissions.

Section 32-100 Plant Site Emission Limits Policy (Moved to Title 34, 11/10/04)

Section 32-101 Requirement for Plant Site Emission Limits (Moved to Title 34, 11/10/94)

Section 32-102 Criteria for Establishing Plant Site Emission Limits (Moved to Title 34, 11/10/94)

Section 32-103 Alternative Emission Controls (Bubble) (Moved to Title 34, 11/10/94)

Section 32-104 Temporary PSD Increment Allocation (Moved to Title 34, 11/10/94)

TABLE 1

Table of Allowable Rate of Particulate Emissions - Based on Process Weight

Process Lbs/Hr.	Emission Lbs/Hr.	Process Lbs/Hr.	Emission Lbs/Hr.	Process Lbs/hr.	Emission Lbs/Hr.
50	0.24	2300	4.44	7500	8.39
100	0.46	2400	4.55	8000	8.71
150	0.66	2500	4.64	8500	9.03
200	0.85	2600	4.74	9000	9.36
250	1.03	2700	4.84	9500	9.67
300	1.20	2800	4.92	10000	10.00
350	1.35	2900	5.02	11000	10.63
400	1.50	3000	5.10	12000	11.28
450	1.63	3100	5.18	13000	11.89
500	1.77	3200	5.27	14000	12.50
550	1.85	3300	5.36	15000	13.13
600	2.01	3400	5.44	16000	13.74
650	2.12	3500	5.52	17000	14.36
700	2.24	3600	5.61	18000	14.97
750	2.34	3700	5.69	19000	15.58
800	2.43	3800	5.77	20000	16.19
850	2.53	3900	5.85	30000	22.22
900	2.62	4000	5.93	40000	28.30
950	2.72	4100	6.01	50000	34.30
1000	2.80	4200	6.08	60000	40.00
1100	2.97	4300	6.15	70000	41.30
1200	3.12	4400	6.22	80000	42.50
1300	3.26	4500	6.30	90000	43.60
1400	3.40	4600	6.37	100000	44.60
1500	3.54	4700	6.45	120000	47.30
1600	3.66	4800	6.52	140000	47.80
1700	3.79	4900	6.60	160000	49.00
1800	3.91	5000	6.67	200000	51.20
1900	4.03	5500	7.03	1000000	69.00
2000	4.14	6000	7.37	2000000	77.60
2100	4.24	6500	7.71	6000000	92.70
2200	4.34	7000	8.05		

Interpolation and extrapolation of emissions above a process weight of 60,000 pounds per hour shall be accomplished by use of this equation:

$E = (55.0 \times P^{0.11}) - 40$, where P = process weight in tons per hour and
E = emission rate in pounds per hour.

Attachment B

LANE REGIONAL AIR POLLUTION AUTHORITY

TITLE 48

Rules for Fugitive Emissions

Section 48-001 General Policy

In order to restore and maintain Lane County air quality in a condition as free from air pollution as is practicable, consistent with the overall public welfare of the county, it is the policy of the Lane Regional Air Pollution Authority to require the application of reasonable measures to minimize fugitive emissions to the greatest extent practicable.

Section 48-005 Definitions

(See Title 12, Definitions)

Section 48-010 General Applicability

1. **Except for agricultural activities which are exempted by state statute, these rules apply to all sources of fugitive emissions within Lane County.**

2. **Examples of sources affected by these rules are:**

   A. **Construction activities including land clearing and topsoil disturbance;**

   B. **Demolition activities;**

   C. **Unpaved traffic areas and parking lots where there are nuisance conditions;**

   D. **Material handling and storage operations;**

   E. **Mining and yarding activities including access and haul roads;**

   F. **Storage piles of dusty materials;**

   G. **Manufacturing operations.**

Section 48-015 General Requirements

1. **When fugitive emissions escape from a building or equipment in such a manner and**

amount as to violate any regulation, the Director may, in addition to other means of obtaining compliance, order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that air contaminants are controlled or removed before discharge to the open air. Fugitive emissions creating a nuisance shall be regulated by Title 49 of these rules.

This section was amended 10/09/01

2. No person shall cause, suffer, allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to the following:

   A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

   B. Application of asphalt, approved road oil, water, or other suitable chemicals on unpaved roads, material stockpiles, and other surfaces which can create airborne dusts;

   C. Full or partial enclosure of materials stockpiles in cases where application of oil, water or chemicals is not sufficient to prevent particulate matter from becoming airborne;

   D. Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials;

   E. Adequate containment during sandblasting or other similar operations;

   F. The covering of moving, open-bodied trucks transporting materials likely to become airborne;

   G. The prompt removal from paved streets of earth or other material which does or may become airborne.

LANE REGIONAL AIR POLLUTION AUTHORITY

Title 49

Nuisance Control Requirements

Section 49-005 Definitions

Definitions of words or terms used in Title 49 can be found in LRAPA Title 12, "Definitions."

Section 49-010 Nuisance Prohibited

1. No person may cause or allow air contaminants from any source subject to regulation by the Authority to cause a nuisance.

2. Upon determining that a nuisance may exist, the Authority will provide written notice to the person creating the suspected nuisance. The Authority will endeavor to resolve observed nuisances in keeping with the policy outlined in Section 15-001. If the Authority subsequently determines that a nuisance exists under Section 49-020 and proceeds with a formal enforcement action pursuant to Title 15, the first day for determining penalties will be no earlier than the date of this written notice.

Section 49-020 Determining Whether a Nuisance Exists

1. In determining a nuisance, the authority may consider factors including, but not limited to, the following:

   A. frequency of the emissions;

   B. duration of the emissions;

   C. strength or intensity of the emissions, odors, or other offending properties of the emissions;

   D. number of people impacted;

   E. the suitability of each party's use to the character of the locality in which it is conducted;

   F. extent and character of the harm to complainants; and

G. the source's ability to prevent or avoid harm.

2. Compliance with a Best Work Practices Agreement that identifies and abates a suspected nuisance constitutes compliance with Section 49-010 for the identified nuisance. For sources subject to Title 34, compliance with specific permit conditions that results in the abatement of a nuisance associated with an operation, process or other pollutant-emitting activity constitutes compliance with Section 49-010 for the identified nuisance. For purposes of this section, "permit condition" does not include the general condition prohibiting the creation of nuisances.

49-030 Best Work Practices Agreement

1. A person may voluntarily enter into an agreement with the Authority to implement specific practices to abate the suspected nuisance. This agreement may be modified by mutual consent of both parties. This agreement will be an Order for the purposes of enforcement under Title 15.

2. For any source subject to Title 34, the conditions outlined in the Best Work Practices Agreement will be incorporated into the permit at the next permit renewal or modification.

3. This agreement will remain in effect unless or until the Authority provides written notification to the person subject to the agreement that:

   A. the agreement is superseded by conditions and requirements established later in a permit;

   B. the Authority determines the activities that were the subject of the agreement no longer occur; or

   C. the Authority determines that further reasonably available practices are necessary to abate the suspected nuisance.

4. The agreement will include one or more specific practices to abate the suspected nuisance. The agreement may contain other requirements including, but not limited to:

   A. monitoring and tracking the emissions of air contaminants;

   B. logging complaints and the source's response to the complaints; and

   C. conducting a study to propose further refinements to best work practices.

5. The Authority will consult, as appropriate, with complainants with standing in the matter throughout the development, preparation, implementation, modification and evaluation of a Best Work Practices Agreement. The Authority will not require that complainants identify themselves to the source as part of the investigation and development of the Best Work Practices Agreement.

Section 49-040 Masking of Emissions

No person may cause or permit the installation or use of any device or use of any means designed to mask the emission of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.

Section 49-050 General

1. Domestic residences of four or fewer family living units are exempt from the requirements of Title 49.

2. Compliance with any of the requirements of Title 49 does not preclude required compliance with any other requirement of the Authority's Rules and Regulations.

LANE REGIONAL AIR POLLUTION AUTHORITY

TITLE 50

Ambient Air Standards

Section 50-005 General

These ambient air standards are established to ensure the health and welfare of the citizens of Lane County. It is the policy of the Authority to take whatever legally available reasonable measures may be required to attain and maintain these standards.

Section 50-010 Particle Fallout

The particle fallout rate as measured by an Authority-approved method at a location approved by the Authority, shall not exceed 3.5 grams per square meter per month, of which the concentration of calcium oxide shall not exceed 0.35 grams per square meter per month.

Section 50-015 Suspended Particulate Matter

1. **Concentrations of suspended particulate matter at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed:**

   A. **60 micrograms of TSP per cubic meter (ug/m^3) of air as an annual geometric mean for any calendar year.**

   B. **150 ug/m^3 of TSP as a 24-hour average concentration more than once per year.**

   C. **50 ug/m^3 of PM10 as an annual arithmetic mean. This standard is attained when the expected mean concentration, as determined in accordance with appendix K of 40 CFR 50 is less than or equal to 50 ug/m^3.**

   D. **150 ug/m^3 of PM10 as a 24-hour average concentration for any calendar day. This standard is attained when the expected number of days per calendar year with a 24-hour average concentration, rounded to the nearest 10 ug/m^3, above 150 ug/m^3, as determined in Appendix K of 40 CFR 50 is equal to or less than one.**

2. **Concentrations of calcium oxide present as total suspended particulate (TSP), as measured at an Authority-approved site by an approved method shall not exceed 20 ug/m^3.**

Section 50-020 Odors

(Deleted 10/09/01)

Section 50-025 Sulfur Dioxide

1. Concentrations of sulfur dioxide at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed:

   A. 0.02 ppm as an annual arithmetic mean for any calendar year;

   B. 0.10 ppm as a 24-hour average concentration more than once per year;

   C. 0.50 ppm as a 3-hour average concentration more than once per year.

Section 50-030 Carbon Monoxide

1. For comparison to the standard, averaged ambient concentrations of carbon monoxide shall be rounded to the nearest integer in parts per million (ppm). Fractional parts of 0.5 or greater shall be rounded up.

2. Concentrations of carbon monoxide at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed:

   A. 9 ppm as an 8-hour average concentration more than once per year;

   B. 35 ppm as a 1-hour average concentration more than once per year.

Section 50-035 Ozone

Concentrations of ozone at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed 0.12 ppm as a 1-hour average concentration. This standard is attained when the expected number of days per calendar year with maximum hourly concentrations greater than 0.12 ppm is equal to or less than one as determined by Appendix H, 40 CFR 50.9.

Section 50-040 Nitrogen Dioxide

Concentrations of nitrogen dioxide at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed 0.053 ppm as an annual arithmetic mean.

Section 50-045 Lead

The lead concentration at a location meeting ambient air monitoring site criteria, and as measured by an approved method, shall not exceed 1.5 ug/m^3 as an arithmetic average concentration of all samples collected at that location during any one calendar quarter.

Attachment C

AGENDA ITEM NO. 8

LRAPA Board of Directors Meeting

October 9, 2001

TO: Board of Directors

FROM: Brian Jennison, Director

SUBJ: Public Hearing on Proposed Adoption of New LRAPA Title 49, "Nuisance Rules," and Associated Amendments to LRAPA Titles 12, "Definitions," 32, "Emission Standards," 48, "Fugitive Emissions," and 50, "Ambient Air Standards"

NEED FOR RULE

The Authority receives numerous nuisance complaints each year which are concerned primarily with odors or fugitive dust emissions that are not related to industrial source permit violations or open burning activities. While each case is significant to the complainant and the offending party, the problem is frequently not a significant health-related air quality issue. Under the current regulations, these cases can often require significant Authority resources to resolve.

The Oregon Department of Environmental Quality recently adopted new nuisance regulations designed to deal with nuisance situations more effectively by making determination of nuisance conditions more objective and consistent. LRAPA proposes to adopt new rules similar to the state's new rules so that these situations can be dealt with as consistently as possible throughout the state.

PUBLIC COMMENT PROCESS

Notice of the proposed rulemaking was initially sent in March to LRAPA's list of interested persons, including among others all holders of Air Contaminant Discharge Permits, Synthetic Minor Permits, and Title V Permits. Copies of the actual draft amendments were sent to everyone who requested them. Comments were received from a number of industrial sources, and those comments have been incorporated into this revised proposal, as appropriate.

The original proposal was presented to the LRAPA Advisory Committee in January and was discussed again at the committee's February meeting. The committee had no formal comments or recommendations regarding the proposed amendments.

Copies of the original proposal were also submitted to EPA Region 10 in Seattle and to DEQ's Air Quality Division for their review and comment. DEQ reviewed the proposed amendments and determined them to be at least as stringent as comparable state rules. At that time we planned to adopt Title 49 as a local rule which would not need EQC approval or submittal to EPA as an

amendment to Oregon's State Implementation Plan (SIP). Because the revised proposal includes revisions to some rules which are included in the SIP, the process has changed. We submitted the revised draft proposal to both EPA and DEQ and received from DEQ correspondence indicating that the proposed amendments to LRAPA Titles 12, 32, 48, and 50, as well as draft Title 49, are at least as stringent as comparable state rules and authorizing LRAPA to serve as hearings officer for the Oregon Environmental Quality Commission (EQC). Today's hearing will be a joint LRAPA/EQC hearing.

Notice of the hearing was published in the August 1 volume of the Secretary of State's Oregon Bulletin, and in the Oakridge Dead Mountain Echo, Eugene Register-Guard, the Cottage Grove Sentinel, and the Springfield News. No new comments have been at the time this report is being written.

Any comments received prior to the hearing will be evaluated and, where appropriate, incorporated into another revised draft proposal for presentation at the public hearing. Following the public hearing, the LRAPA board will be asked to adopt the rules, either as proposed or with any changes deemed necessary in response to information received at the hearing. Following adoption, the amendments, along with a hearings officer's report of the public hearing, will be sent to DEQ for adoption by the EQC. Following EQC adoption, DEQ will forward the amendments to EPA for approval as a revision to Oregon's State Implementation Plan.

COMMENTS RECEIVED REGARDING INITIAL PROPOSAL AND LRAPA RESPONSES

LRAPA received written comments from a number of industrial sources, most of which are variations on the same central points identified by Associated Oregon Industries. Those comments, along with a memo from the LRAPA director responding to each point, are attached to this report. Other comments included:

1. Kevin Downing, Oregon Department of Environmental Quality, stated that the proposed rules are at least as stringent as comparable state rules (letter attached).

2. Cliff Boyd, Sony Disc Manufacturing Springfield (SDMS), stated that SDMS agrees with LRAPA's proposal and supports adoption of new Title 49 (letter attached).

SUMMARY OF PROPOSED CHANGES

The proposed new Title 49, "Nuisance Control Requirements," provides a more definitive protocol to resolve nuisance conditions than exists in the current rules. The primary feature of the proposed rules is the inclusion of the Best Work Practices Agreement. This voluntary agreement with the offending source provides the Authority with a vehicle to require reasonable control measures to achieve compliance without resorting to expensive and time-consuming enforcement actions.

In addition to the new Title 49, it is proposed to make corresponding revisions to current references to nuisance in Titles 12, 32, 48, and 50.

DETAILS OF PROPOSED CHANGES

The proposed changes are as follows:

1. Amendments to Title 12, "Definitions." A number of definitions for words or terms used in the proposed Title 49 are to be included in Title 12. Currently, the individual titles contain a definitions section specific to words and terms used in that section. Those same definitions are currently also in Title 12. There are some differences in definitions caused by not making changes to Title 12 at the same time a definition is changed, added to, or deleted from an individual title. To avoid that problem, staff proposes removing the definitions section from the individual titles and having all definitions in Title 12. As part of Title 49 rulemaking, it is proposed to remove the definitions sections from all titles affected by this rulemaking and updating Title 12 by placing into Title 12 any definitions which are not currently there, as well as amending any definitions which are in Title 12 but have not been changed in accordance with subsequent rulemaking affecting other titles. One further change proposed for Title 12 is to change LRAPA's current general definition of "VOC" to be the same as the current state and federal definition.

2. Amendments to Title 32, "Emission Standards."

   A. Section 32-001, the definitions are deleted and moved to Title 12.

   B. Section 32-005, reference to 34-006 through 34-009 is corrected to 32-006 through 32-009.

   C. Section 32-090, Subsection 1 is reworded to remove references to public nuisance or annoyance.

3. Amendments to Title 48, "Rules for Fugitive Emissions."

   A. Section 48-005, the definitions are deleted and moved to Title 12.

   B. Section 48-010, Subsection 2.C, reference to nuisance conditions is deleted.

   C. Section 48-015, reference to nuisance conditions is deleted, and a new sentence is added stating that fugitive emissions creating a nuisance shall be regulated by Title 49.

4. Adoption of new Title 49, "Nuisance Control Requirements."

5. Amendments to Title 50, "Ambient Air Standards." Section 5-010, Odors, is deleted from the rules. It is not proposed to include this specific wording in the new Title 49.

IMPLEMENTATION OF THE RULES

If the proposed new rule and amendments to existing rules are adopted, it will be necessary for staff to develop a policy for how to determine whether a given situation is a public nuisance and the process by which to proceed with enforcement of the rules. The LRAPA Advisory Committee has begun work to discuss policy options and develop recommendations. Staff will keep the board informed regarding progress on the implementation policy.

RULEMAKING JUSTIFICATION QUESTIONS

1. Are there state requirements that are applicable to this situation? If so, exactly what are they?

   RESPONSE: Yes. The DEQ recently adopted new rules which codify their approach to resolving air quality nuisance issues (OAR 340-208). These new rules clarify the procedure for evaluating a nuisance air quality complaint and provide a process for abating the nuisance outside the traditional enforcement process.

2. Are the applicable state requirements performance based, technology based, or both with the most stringent controlling?

   RESPONSE: Not applicable.

3. Do the applicable state requirements specifically address the issues that are of concern in Lane County? Was data or information that would reasonably reflect Lane County's concern and situation considered in the state process that established the state requirements?

   RESPONSE: These new rules were developed with input from LRAPA staff, and they do address the issues that are of concern in Lane County.

4. Will the proposed requirement improve existing requirements or prevent the need for costly retrofit to meet more stringent future requirements?

   RESPONSE: Yes. The voluntary Best Work Practices Order provides opportunity for a source suspected of contributing to a nuisance to undertake reasonable control measures that may achieve compliance without resorting to expensive and time-consuming enforcement actions.

5. Is there a timing issue which might justify changing the time frame for implementation of state requirements?

RESPONSE: Not applicable.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

   RESPONSE: Yes. The Best Work Practices Order will provide assurance to the source of what is expected to comply with the LRAPA nuisance rules and will also provide more timely relief from exposure for those experiencing the nuisance.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources (level the playing field)?

   RESPONSE: Yes. Once the rules are adopted, LRAPA will be developing guidance for implementation of the rules to ensure that sources are treated equitably.

8. Would others face increased costs if a more stringent rule is not enacted?

   RESPONSE: Sources suspected of contributing to a nuisance could face challenges to abate the nuisance from many fronts, including other government agencies and third-party lawsuits. By complying with the Best Work Practices Order, a source would ensure no further enforcement by LRAPA. This may also demonstrate a reasonable attempt at control to other affected parties.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable state requirements? If so, why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

   RESPONSE: Not applicable.

10. Is demonstrated technology available to comply with the proposed requirement?

    RESPONSE: Yes. Typically, there will be a variety of reasonable abatement options available, although some will be more effective than others.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost-effective environmental gain?

    RESPONSE: Yes. With the implementation of the reasonable control measures required by the Best Work Practices Order, emissions will be reduced.

LEGAL AUTHORITY

ORS 183, ORS 468.020, ORS 468A.135; LRAPA Titles 13, 14 and 15

PRINCIPAL DOCUMENTS RELIED UPON

1. Attorney General's Uniform and Model Rules of Procedure
2. OAR 340-208
3. LRAPA Title 12
4. LRAPA Title 32
5. LRAPA Title 48
6. LRAPA Title 50

FISCAL AND ECONOMIC IMPACT OF PROPOSED AMENDMENTS

Industry: As the source of nuisance emissions, an industrial source would bear the brunt of the fiscal impact. The cost of control would depend upon the pollutant causing the nuisance. For example: minor dust fallout problems associated with uncovered trucks loaded with loose material may only require the expenditure of a few thousand dollars to cover the loads; while at the other end of the scale, control of odor emissions might require the installation of a thermal oxidizer at a cost of several hundred thousand dollars and associated annual operating costs..

Public: The public exposed to an air quality nuisance would receive an indeterminate benefit related to greater enjoyment of their personal real property once the nuisance is abated.

LRAPA: Because the agency already works diligently to alleviate nuisance problems, these new rules should not result in any additional cost to the agency. By providing a better mechanism for dealing with nuisance conditions, the new rules could result in some savings to the agency in costs associated with prolonged enforcement proceedings.

Other Government Agencies: Not applicable.

LAND USE CONSISTENCY STATEMENT

The proposed rule amendments are consistent with land use as described in applicable land use plans in Lane County.

OPTIONS FOR BOARD ACTION

1. Adopt the proposed new Title 49 and amendments to LRAPA Titles 12, 32, 48, and 50. LRAPA's nuisance rules will conform with those adopted by the state, and all references to nuisance throughout LRAPA's rules will be updated to reflect the provisions of new Title 49.

2. Ask staff to develop a different proposal. The proposed new rules and amendments to existing rules would bring LRAPA's rules into line with state rules, making it possible to have consistent treatment of nuisance problems throughout the state. LRAPA has already responded to the comments received on the original proposal. Given those facts, it is unlikely that a significantly different proposal would result from additional effort.

3. Do not adopt the proposed new rule and amendments to existing rules. LRAPA's nuisance rules would continue to be inconsistent with and less effective than the state's rules.

STAFF RECOMMENDATION

It is staff's recommendation that the board adopt the new LRAPA Title 49 and amendments to LRAPA Titles 12, 32, 48, and 50, as proposed.

RK\MJD

Attachment D

LRAPA
Lane Regional Air Pollution Authority

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MEMORANDUM

TO: Environmental Quality Commission

FROM: Brian L. Jennison, Ph.D., Hearings Officer BLJ

SUBJ: Public Hearing, October 9, 2001, Regarding Adoption of LRAPA Title 49 and Amendments to LRAPA 12, 32, 48 and 50

Summary of Procedure

Pursuant to public notice, a public hearing was convened by the Board of Directors of the Lane Regional Air Pollution Authority on October 9, 2001 in the LRAPA meeting room at 1010 Main Street, Springfield, Oregon. The purpose of the hearing was to adopt new LRAPA Title 49, "Nuisance Rules," and amend LRAPA Titles 12, "Definitions," 32, "Emission Standards," 48, "Fugitive Emissions," and 50, "Ambient Air Standards."

In response to written comments received October 4, 2001 from Russell Ayers of Weyerhaeuser Company in Springfield, Oregon, staff presented a revision to the proposed Title 49. The revision was to delete Section 49-050, Odor Control Requirements, because the Highest and Best Practicable Treatment provision of that section is already included in LRAPA's rules in Section 32-005. Staff believes that 32-005 gives LRAPA the authority necessary to deal with odor control issues, regardless of whether the source is determined to be a public nuisance.

Summary of Testimony

Written comments received prior to the public hearing are included as attachments to the October 9, 2001 staff report to the LRAPA Board of Directors.

Oral comments at the hearing included:

1. Richard Brown, 91228 North Miller Street, Coburg, Oregon. Mr. Brown had several comments and questions.

   A. The proposed elimination of Section 50-020, Odors, could affect permits which specifically require compliance with that section.

   B. The phrase "reasonably available practices" is not defined.

C. In light of staff's assertion that the Best Work Practices Agreement in 49-030 would take precedence over everything and eliminate the need for 49-050, Brown asked for clarification of the difference between Highest and Best Practicable Treatment and Best Work Practices Agreement.

D. The term "substantial and unreasonable" is not defined.

E. Will 49-020, which deals with determining whether a nuisance exists by using such criteria as frequency of emissions and duration of emissions, be handled on a case-by-case basis?

F. Is LRAPA prepared to stand behind the comments in Attachment D of the information package presented by DEQ at the January 2000 EQC meeting?

G. Brown asked for clarification of Section 49-030 which states that the Authority will consult as appropriate with complainants in a standing matter.

2. John Ledger, Associated Oregon Industries, stated that AOI supports the revised rule proposal made by staff.

3. Terry Connolly, Director of Government Affairs, Eugene Area Chamber of Commerce, stated that several of the Chamber's members had expressed concern about including Section 49-050 and that he believes that staff's proposal to remove that section addresses those concerns.

Details of the comments, staff responses, and board discussion are included in the minutes of the October 9, 2001 board meeting.

Action of the LRAPA Board of Directors

Based on the information presented the board voted unanimously to adopt new Title 49, as revised, and amendments to Titles 12, 32, 48 and 50, as proposed.

/MJD

MINUTES

LANE REGIONAL AIR POLLUTION AUTHORITY
BOARD OF DIRECTORS MEETING
TUESDAY–OCTOBER 9, 2001
LRAPA Meeting Room
1010 Main Street
Springfield, Oregon

ATTENDANCE

Board: Betty Taylor, Chair–Eugene; Don Hampton–Oakridge/Cottage Grove; Al Johnson–Eugene; Shannon McCarthy–Eugene; Dave Ralston–Springfield; Pete Sorenson–Lane County; Carol Tannenbaum–At-Large
(ABSENT: None)

Staff: Brian Jennison--Director; Sharon Banks; Tom Freeman; Drew Johnson; Ralph Johnston; Robert Koster; Kim Metzler; Colleen Wagstaff

1. OPENING: Taylor called the meeting to order at 12:15 p.m.

2. CONSENT CALENDAR (September 11, 2001 minutes and expense reports through August 31, 2001):

   ACTION: MSP(Hampton/Johnson)(Unanimous) approval of consent calendar.

3. PUBLIC PARTICIPATION: None.

4. DIRECTOR'S REPORT: Jennison had nothing to add to the written report, and the board had no questions regarding the report.

5. OLD BUSINESS:

   Monaco Coach Odor Complaint Situation. Jennison distributed copies of a letter received from Monaco Coach responding to LRAPA's report and photographs of visible emissions from several of the stacks at the Coburg facility. There was no board discussion regarding the company's response. Jennison said that LRAPA had received 53 additional complaints of odor since the September board meeting, bringing the total complaints to 1,047 over the past two years. He said he had no new information regarding the citizens' lawsuit, except that he had heard informally that there will be an arbitration meeting, perhaps later this week.

6. ADVISORY COMMITTEE: Metzler reported that Ralph Johnston gave the committee an overview of the nuisance rules at their September meeting. The committee provided comments which were incorporated into the rule proposal.

7. REQUEST AUTHORIZATION TO CONTINUE PARTICIPATION IN CITY COUNTY INSURANCE SERVICES:

ACTION: MSP(Johnson/Sorenson)(Unanimous) adoption of LRAPA Resolution 02-01, confirming LRAPA's continued membership in City County Insurance Services.

8. PUBLIC HEARING ON PROPOSED ADOPTION OF NEW LRAPA TITLE 49 (NUISANCE RULES)AND ASSOCIATED AMENDMENTS TO LRAPA TITLES 12 (DEFINITIONS), 32 (EMISSION STANDARDS), 48 (FUGITIVE EMISSIONS), AND 50 (AMBIENT AIR STANDARDS):

Ralph Johnston gave a brief background of this rulemaking action, stating that the proposed LRAPA rule essentially uses the same language as the statewide rule recently adopted by DEQ. Because the nuisance rule does not have to be included in Oregon's State Implementation Plan (SIP), staff originally planned to adopt a new Title 49 as a local rule with the abbreviated adoption process used for local rules. There are existing nuisance provisions in other LRAPA rules which are part of the SIP, and staff planned to make the necessary changes to those rules under a different rulemaking. A number of members of Associated Oregon Industries (AOI) submitted comments indicating a desire to see all of the changes regarding nuisance done at the same time. Staff agreed and began the process again as a SIP rulemaking. The result is the current proposal which adopts a new Title 49 and changes other existing nuisance provisions to refer to Title 49. In addition to the nuisance provisions, this rulemaking also includes the beginning of LRAPA's effort to move all definitions from individual titles to Title 12 so that all definitions will be found in one place.

Jennison explained that, in response to additional comments from industry, staff now proposed to revise the proposed Title 49 by deleting Section 49-050, Odor Control Measures, and renumbering Section 49-060 to 49-050. The language in the proposed 49-050 is not necessary because this provision is already in a different rule, Section 32-005, Highest and Best Practicable Treatment and Control Required. The concern raised by industry is that there should not be duplication of this rule, and staff believes that removing it from Title 49 and leaving it in Title 32 makes the rules stronger because it is clear that this provision applies to everyone, and not just to a source suspected as a public nuisance. In addition, Section 49-030, Best Work Practices Agreement, gives staff all the authority and power needed to resolve nuisance issues.

Taylor asked whether deleting this section would weaken the rules in any way, and Jennison said his opinion is that it would not.

Public Hearing. Taylor opened the public hearing at 12:25 p.m. Jennison entered into the record affidavits of publication of hearing notice in the September 5, 2001 editions of the Cottage Grove *Sentinel*, the Eugene *Register Guard*, and the *Springfield News*, and the September 6, 2001 issue of the Oakridge *Dead Mountain Echo*, as well as a copy of the notice of hearing in the September 1, 2001 *Oregon Bulletin* published by the Secretary of State's office. Taylor then called upon the individuals who had indicated they wished to testify regarding the proposal.

A. Richard Brown, 91228 North Miller Street, Coburg, Oregon. Brown pointed out that the current permit for Monaco Coach in Coburg includes provisions of LRAPA 50-020 concerning prohibition of odorous emissions which create a nuisance outside the permittee's property. Because the proposed rulemaking eliminates 50-020, Brown asked how the permit would be

affected. Robert Koster responded that those references in the permits will need to be changed to refer to Title 49.

Brown asked about the phrase, "reasonably available practices," stating that it is not defined. Brown said he is concerned that if the rule is adopted, neither citizens nor industry will be protected from something that is not defined. Jennison responded that staff has also heard this from industry and that LRAPA's opinion as to the meaning of that phrase is perhaps more rigorous than industry's opinion. He said staff will need to address that, probably as a separate issue, later on. At present, staff will address it on a case-by-case basis. Sorenson asked if the phrase is defined in state or federal regulations, and Jennison said it is used in the state's regulations but not defined and that it is not used in the federal regulations. Sorenson suggested using a comparable term which is already defined.

Brown asked about the difference between "Highest and Best Practicable Treatment" and "Best Work Practices Agreement," in light of staff's assertion that the Best Work Practices Agreement in 49-030 would take precedence over everything and eliminate the need for 49-050. Jennison responded that staff believes the Best Work Practices Agreement in 49-030 will allow LRAPA to achieve at least the Highest and Best Practicable Treatment and possibly more, on a case-by-case basis, depending on the industry in question. Brown asked if odor control in 49-050 would be handled under 49-030, and Jennison said it would be, because 49-030 refers to any nuisance. That could include odor, as well as dust or particulate fallout.

Brown said he also found no definition for "substantial and unreasonable" and asked if that is a matter for concern. Jennison said this is taken directly from the state rule. Taylor suggested discussing this after Brown completes his comments.

Brown referred to 49-020 which deals with determining whether a nuisance exists by using such criteria as frequency of emissions and duration of emissions. He asked if this is also to be handled on a case-by-case basis, and Jennison responded that it is. Jennison added that staff discussed this with the advisory committee, and the committee said they could not see any way to determine nuisance conditions other than on a case-by-case basis.

Brown then referred to an attachment from the state's nuisance rulemaking and asked whether LRAPA is prepared to stand behind the comments from DEQ. He gave Jennison a copy of the attachment on which he had marked the items to which he was referring. Response to the DEQ attachment was held until the board discussion following the public hearing. Jennison stated at this time that LRAPA will stand behind its comments made to industry in response to their concerns regarding LRAPA's rulemaking.

Brown asked for an explanation of Section 49-030 which states that the Authority will consult as appropriate with complainants in a standing matter. Jennison said LRAPA will consult as appropriate with complainants in standing matters throughout the development, preparation, implementation, modification, and evaluation, meaning that it will be a full public process. He said it will be as LRAPA has been working with the citizens who have complained about odors from Monaco Coburg, possibly even including a public session.

B. John Ledger, Associated Oregon Industries (AOI). Ledger stated that AOI supports the revised rule proposal made by staff. He acknowledged that nuisance situations are very difficult to deal with because you're dealing with something that is often ephemeral and sometimes perhaps not quantifiable. Consequently, it is hard to develop rules with which people on both sides of such an issue are comfortable. Ledger thanked LRAPA for working well with AOI members, adding that AOI has a good working relationship with LRAPA and that they feel this rule is a good product resulting from a lot of time and effort by many people.

C. Terry Connolly, Director of Government Affairs, Eugene Area Chamber of Commerce, 1401 Willamette, Eugene. Connolly said that several of the Chamber's members had expressed concern about including Section 49-050, Odor Control Measures. He said he believes that staff's proposal to remove that section addresses those concerns. Connolly said that nuisance issues are a challenge to businesses. The Chamber encourages government agencies to keep in mind the costs involved with new regulations, particularly in light of the fact that the Eugene-Springfield area has lost over 2,000 jobs during the past year. Connolly said the Chamber sees this effort to develop a rule through agreement between private and public sectors as an important step to protect the public health while also protecting the businesses based in Lane County.

There was no one else present who indicated they wished to comment. Taylor closed the public hearing at 12:38 p.m.

Discussion. Taylor asked Jennison to respond to Brown's questions regarding DEQ's responses to comments received during its rulemaking process. Jennison said he would expect LRAPA responses to be similar but that they may not be exactly the same as DEQ's. He responded individually to each of the points Brown had marked on the copy of DEQ's attachment.

A. The first comment (page 7, number 16) was that the definition of a nuisance also needs to quantify the difference between a public and a private nuisance, including factors like the number of complaints, the duration of the incident, the intensity and verification of complaints by regulatory agencies. DEQ's response was that the definition of nuisance is taken from common law. The difference between public and private nuisance is not necessarily related to the number of people affected, but rather the nature of the nuisance itself. The DEQ agreed that their proposed definition was insufficient on its own to provide direction to staff or guidance to citizens or businesses as to what constitutes a nuisance. That is why DEQ proposed new criteria which were adopted into the state rule to guide staff in responding to a nuisance complaint. Jennison said that LRAPA would stand behind the state response and that staff believes that Section 49-020 gives staff the tools needed to determine, on a case-by-case basis, whether or not a public nuisance exists.

B. The second comment (page 9, number 22) was that the definition of a nuisance needs to include site-specific factors like zoning, and sources should be exempted if operating within substantive permitting requirements and appropriately located in areas zoned for that use. The DEQ disagreed with this comment, stating that case law developed around nuisance complaints indicates that neither zoning nor compliance with pollution standards provides an absolute defense against nuisance legal actions. LRAPA agrees with the DEQ's response. There are cases in which the nuisance rule may be applied against a permitted source otherwise operating in compliance.

C. The third comment (page 17, number 42) was that a Best Work Practices Order needs to provide more binding assurance to the source than is provided in the state's proposed rule because it is important that sources are provided a level of relief from ongoing compliance and enforcement threats. Sources will not sign Best Work Practices Agreements that allow the DEQ to require more measures at any time in the future. DEQ's responses was that if the source agrees to a Best Work Practices Agreement, then both the source and the Department are motivated to promptly address the problems that gave rise to the complaints. The Department has extensive experience providing technical assistance to enable sources to meet environmental requirements in the most effective way possible. Jennison said he believes LRAPA would be more concerned with the public odor response side of this equation. Under Section 49-020, the proposed LRAPA rule gives staff sufficient latitude to determine if a nuisance exists, and Section 49-030 gives LRAPA sufficient tools to work with a specific industry to resolve a specific situation. Jennison said he would disagree with the industry thrust of this comment and that a higher level of public protection needs to be applied. He added, however, that this is a voluntary process and that if industry does not believe it is being treated fairly, they don't have to enter into the agreement. The provision is something which is negotiated between LRAPA and industry, and no one is coerced to do it. Tannenbaum asked what LRAPA would do if a source refused to enter into a Best Work Practices Agreement; and Jennison said that, if LRAPA determines that a source is a public nuisance, it could be handled under the civil penalty process in the enforcement rules. Jennison pointed out that (renumbered) Section 49-050, General, Part 2, states that compliance with any of the requirements of Title 49 does not preclude required compliance with any other requirement of the Authority's rules and regulations. Staff does not believe the agency will give up anything by adopting the provisions of Title 49.

D. The fourth comment (page 32, number 89) was that Reasonably Available Controls considered for Best Work Practices must consider site-specific factors, cost, and the extent of the nuisance problem. DEQ agreed with this comment, and LRAPA also agrees with the comment, in general. Jennison said the section reads, "Reasonably Available Controls Considered for Best Work Practices," and that is why it must be considered on a case-by-case basis. What staff might wish to accomplish may not be attainable economically, and Jennison said he believes this might be the crux of industry's concern with Section 49-050. Industry does not want LRAPA to be able to use this rule to force them to apply very expensive additional treatment that can't be required under the permitting rules.

Another comment on number 89 was that it is burdensome and unreasonable to set incinerator and afterburner operating parameters for odor control systems that are more appropriate for VOC control systems. Odor control systems based on sound engineering design that can be employed to control odors using less than the Highest and Best Practicable Treatment should be allowed. The goal should be nuisance abatement and not emissions reductions. Industry believed this rule should be deleted from the state's proposed nuisance rules. DEQ and LRAPA both disagree with this comment. The rule consists of two elements but is wholly directed toward odor control. Despite what the commenter suggests, not all odor controls will be afterburners or incinerators. The rule is not prescriptive in this regard. LRAPA can negotiate other forms of abatement if they will work. The rule provides the specifications for operation of incinerators or afterburners, if

those technologies are used, but also allows for other controls. LRAPA agrees that, on a case-by-case basis, if something else will work to eliminate the nuisance condition, it should be allowed.

Taylor asked about the exemption for domestic residences of four or fewer family living units. Jennison explained that LRAPA has no jurisdiction over residences, although a large apartment complex could fall under this rule. Domestic residences of four or fewer family units is a pretty standard federal and state limit for these sorts of rules. There was some discussion of using these rules in situations where residents cause nuisance conditions with smoke from their chimneys. Jennison said this would be handled better through city or county code enforcement. LRAPA would be willing to work with appropriate code enforcement departments to resolve those problems.

Taylor asked if adoption of the proposed rules, as revised, would result in LRAPA's being able to take some kind of action which it has not been able to take in the Monaco Coach odor complaint situation. Jennison said he was reluctant to answer that question directly because he does not believe any agency should adopt site-specific or one-company-specific rules. He believes LRAPA should adopt this nuisance rule because it is the same as what the state has adopted. Once it is in place, if there are facilities in Lane County to which the rule would apply, it will be vigorously applied.

Sorenson asked if the state has tested its rule yet. Jennison said he does not believe it has. Environmental Quality Commission member Didi Malarkey was present at this meeting and she added that the Commission has not yet had any enforcement actions based on DEQ's nuisance rules brought before them.

ACTION (Sorenson/McCarthy)(Unanimous) adoption of new Title 49 with proposed revision, and adoption of amendments to Titles 12, 32, 48, and 50, as proposed.

9. DISCUSSION OF CITY AND COUNTY ORDINANCES DEALING WITH REDUCING EMISSIONS FROM HOME WOOD HEATING:

This subject was brought up at the September 11 board meeting during a discussion of wood burning as an alternative heating source, given the rising costs of electric power. Board consensus at that meeting was that LRAPA should encourage the cities and the county to adopt ordinances to help reduce wood heating emissions. At that time, the board directed Kim Metzler to gather sample ordinances aimed at reducing emissions from wood heating so that the board could discuss possible alternatives to suggest to the county and the cities.

Metzler briefly described each of the ordinances provided in the board's agenda packets.

A. **Prohibited Materials**. Ordinances in Klamath Falls and Medford, as well as Missoula, Montana, prohibit burning any material other than untreated wood or uncolored paper in a woodstove. Oregon's state rules do not currently include those restrictions, although Metzler said she had spoken with someone from the state who said they are in the process of revamping the woodstove rules and would like to include something to prohibit the burning of certain materials.

B. **Removal of uncertified woodstove upon sale of home.** Missoula currently has this provision, and both Deschutes County and the city of Bend are including it in the ordinances they are developing.

C. **Prohibition of woodstove as sole source of heat in rental units**. Klamath Falls includes this provision in its ordinance. The ordinance requires that the owner of a rental unit with a woodstove or fireplace provide an alternative heat source to use on a no-burn day. Metzler said she has been told that it has been difficult to determine where these properties are located throughout the city.

D. **Prohibition of woodstoves in new homes**. Missoula's ordinance is the only one Metzler has found which includes this provision. They will allow pellet stoves to be placed in new homes.

E. **Opacity limit for chimneys**. Missoula also includes a 40 percent opacity limit for woodstoves. Metzler said this is complicated because there is a 20-minute period during startup or putting new wood on the fire during which it is expected that there may be some visible emissions. The people who enforce the opacity limit take pictures during the 20-minute startup period, and then take another picture after that time. If the opacity is still greater than 40 percent, the resident receives a ticket.

F. **Limited time for open burning**. In order to help keep the particulate levels down during the wood heating season, Klamath Falls allows a period of about two weeks in the fall for open burning and then allows a longer season in the spring.

Discussion. Sorenson commented that it seems that all of the communities which have adopted these ordinances are dealing with the same kinds of issues which face Lane County communities: how to strike a balance between the need to keep the air as clean as possible with the needs of people for whom wood heating is the only affordable option on an ongoing basis. He said he would like staff to prepare a model ordinance with the most appropriate alternatives for board members to present to the cities and county for their adoption.

Taylor agreed with Sorenson but said she believes LRAPA staff should present the ordinance to the cities and county rather than having the elected officials on the LRAPA board do it. She also asked who would enforce the ordinances. Metzler responded that code enforcement officers from the building departments would be the ones to enforce the ordinances.

Ralston asked whether code enforcement officers would be qualified to enforce the ordinances, particularly if they included opacity limits, and Jennison responded that the opacity of the smoke would probably be done by using EPA Method 9. He said they could get qualified for that and would need to go back every six months to maintain the qualification. Metzler said she had asked about enforcement of the provisions prohibiting certain materials to be burned in a woodstove; and both jurisdictions which currently have that on the records have said it really is not enforced, but they believe having it on the books helps them to get greater cooperation. Jennison said that if LRAPA got a complaint alleging that garbage was being burned, staff could go to the residence, tell the people that there had been a complaint, give them some literature, and inform them of the provisions of the local ordinance. He said experience elsewhere has shown that this action, alone, would achieve at least 50 percent compliance

simply because the people were previously unaware of the ordinance and would willingly comply once informed.

Hampton suggested that the model ordinance prepared by staff include all of the options presented by Metzler, and then the board can decide whether or not they wish to keep all of them in a recommended ordinance. The same process could be followed by each jurisdiction, to decide which of the options they would like to include in an ordinance.

Jennison said staff would be happy to prepare a model ordinance and asked if all city ordinances in Lane County follow the same format as the various ordinances being discussed. Sorenson responded that they are all very similar.

Johnson brought up the subject of mandatory garbage pickup to help keep people from burning garbage in their woodstoves and fireplaces, or dumping it in rural areas, rather than having it hauled away. He stressed that there is a link to air quality in terms of reducing the amount of garbage being burned. This was also discussed at the October meeting. He asked for clarification of current rules proposed for mandatory garbage pickup. Jennison said he agrees that it would be good to have the mandatory pickup, but it is unclear to him what LRAPA can do in that regard other than recommending it to the cities and the county. He added that he would like to keep it out of this particular ordinance, because it would be a separate issue. Tannenbaum suggested that the subject could be brought up when the woodstove ordinance is presented, as an additional suggestion for them to consider to help alleviate the wintertime wood smoke problem.

Ralston asked if Oakridge has ever had a Red wood burning day, and Hampton replied that there have been six in one year. Metzler commented that the curtailment program is still voluntary in Oakridge. Ralston asked how the public knows what the advisory is for any given day. Metzler explained that the daily advisories are given to the media. The TV stations report the advisory during the newscast. Radio stations also report yellow or red days. The *Register Guard* publishes the advisory, although it is not as reliable as the other two media. LRAPA also has a 24-hour telephone advisory line for people to call. If there were a red day, particularly in Eugene-Springfield, the media would give it significant coverage. Ralston said he is concerned about people who might not watch TV or listen to radio or read the newspapers. He asked if a citation would be issued to a person who was not aware of the advisory. Jennison responded that there have been no Red advisories in Eugene-Springfield since the program became mandatory. When he was in Reno, enforcement would be handled by going to the door of a home with a smoking chimney, issuing a written warning, and asking the residents to let the fire burn out. They would only be cited if they refused to cooperate.

Ralston asked what happens if wood is the sole source of heat for a residence. Staff explained that there is an economic need exemption available for households which quality under the same conditions under which they would qualify for supplemental help with heating through EWEB. LRAPA issues about 35 economic need exemptions per year. There was at one time a sole source exemption, but that is no longer available. Jennison said that if there were a situation where a resident is clearly unable to afford and has not ever installed any other form of heat, LRAPA would not make them freeze on a Red day. McCarthy asked if there is a stove or chimney inspection when an exemption is issued, and staff said there is not. Because there are so few households who get the exemption, staff has not forced the issue of certified stoves or required stove or chimney cleaning as conditions of the exemption.

Taylor asked if fireplaces are allowed in places where ordinances prohibit installation of woodstoves in new house construction. Metzler said fireplaces are not allowed. Jennison commented that people can still have gas fireplaces in most cases.

ACTION: MSP (Sorenson/Hampton)(Unanimous)that staff develop a model ordinance which includes all of the options from other ordinances, for board discussion and approval, as a presentation to the cities and county as a means to address a serious air quality problem in Lane County.

10. NEW BUSINESS: None.

11. ADJOURNMENT: The meeting adjourned at 1:15 p.m. The next regular meeting of the LRAPA Board of Directors is scheduled for Tuesday, November 13, 2001, at 12:15 p.m., in the LRAPA meeting room at 1010 Main Street in Springfield, Oregon.

Respectfully submitted,

Merrie Dinteman
Recording Secretary

Attachment F

AGENDA ITEM NO. 8

LRAPA Board of Directors Meeting

August 14, 2001

TO: Board of Directors

FROM: Brian Jennison, Director

SUBJ: Request for Authorization of Public Hearing on Proposed Adoption of New LRAPA Title 49, "Nuisance Rules," and Associated Amendments to LRAPA Titles 12, "Definitions," 32, "Emission Standards," 48, "Fugitive Emissions," and 50, "Ambient Air Standards"

NEED FOR RULE

The Authority receives numerous nuisance complaints each year which are concerned primarily with odors or fugitive dust emissions that are not related to industrial source permit violations or open burning activities. While each case is significant to the complainant and the offending party, the problem is frequently not a significant health-related air quality issue. Under the current regulations, these cases can often require significant Authority resources to resolve.

The Oregon Department of Environmental Quality recently adopted new nuisance regulations designed to deal with nuisance situations more effectively by making determination of nuisance conditions more objective and consistent. LRAPA proposes to adopt new rules similar to the state's new rules so that these situations can be dealt with as consistently as possible throughout the state.

SUMMARY OF PROPOSED CHANGES

The proposed new Title 49, "Nuisance Control Requirements," provides a more definitive protocol to resolve nuisance conditions than exists in the current rules. The primary feature of the proposed rules is the inclusion of the Best Work Practices Agreement. This voluntary agreement with the offending source provides the Authority with a vehicle to require reasonable control measures to achieve compliance without resorting to expensive and time-consuming enforcement actions.

In addition to the new Title 49, it is proposed to make corresponding revisions to current references to nuisance in Titles 12, 32, 48, and 50.

DETAILS OF PROPOSED CHANGES

The proposed changes are as follows:

1. Amendments to Title 12, "Definitions." A number of definitions for words or terms used in the proposed Title 49 are to be included in Title 12. Currently, the individual titles contain a definitions section specific to words and terms used in that section. Those same definitions are currently also in Title 12. There are some differences in definitions caused by not making changes to Title 12 at the same time a definition is changed, added to, or deleted from an individual title. To avoid that problem, staff proposes removing the definitions section from the individual titles and having all definitions in Title 12. As part of Title 49 rulemaking, it is proposed to remove the definitions sections from all titles affected by this rulemaking and updating Title 12 by placing into Title 12 any definitions which are not currently there, as well as amending any definitions which are in Title 12 but have not been changed in accordance with subsequent rulemaking affecting other titles. One further change proposed for Title 12 is to change LRAPA's current general definition of "VOC" to be the same as the current state and federal definition.

2. Amendments to Title 32, "Emission Standards."

   A. Section 32-001, the definitions are deleted and moved to Title 12.

   B. Section 32-005, reference to 34-006 through 34-009 is corrected to 32-006 through 32-009.

   C. Section 32-090, Subsection 1 is reworded to remove references to public nuisance or annoyance.

3. Amendments to Title 48, "Rules for Fugitive Emissions."

   A. Section 48-005, the definitions are deleted and moved to Title 12.

   B. Section 48-010, Subsection 2.C, reference to nuisance conditions is deleted.

   C. Section 48-015, reference to nuisance conditions is deleted, and a new sentence is added stating that fugitive emissions creating a nuisance shall be regulated by Title 49.

4. Adoption of new Title 49, "Nuisance Control Requirements."

5. Amendments to Title 50, "Ambient Air Standards." Section 5-010, Odors, is deleted from the rules. It is not proposed to include this specific wording in the new Title 49.

RULEMAKING JUSTIFICATION QUESTIONS

1. Are there state requirements that are applicable to this situation? If so, exactly what are they?

RESPONSE: Yes. The DEQ recently adopted new rules which codify their approach to resolving air quality nuisance issues (OAR 340-208). These new rules clarify the procedure for evaluating a nuisance air quality complaint and provide a process for abating the nuisance outside the traditional enforcement process.

2. Are the applicable state requirements performance based, technology based, or both with the most stringent controlling?

   RESPONSE: Not applicable.

3. Do the applicable state requirements specifically address the issues that are of concern in Lane County? Was data or information that would reasonably reflect Lane County's concern and situation considered in the state process that established the state requirements?

   RESPONSE: These new rules were developed with input from LRAPA staff, and they do address the issues that are of concern in Lane County.

4. Will the proposed requirement improve existing requirements or prevent the need for costly retrofit to meet more stringent future requirements?

   RESPONSE: Yes. The voluntary Best Work Practices Order provides opportunity for a source suspected of contributing to a nuisance to undertake reasonable control measures that may achieve compliance without resorting to expensive and time-consuming enforcement actions.

5. Is there a timing issue which might justify changing the time frame for implementation of state requirements?

   RESPONSE: Not applicable.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

   RESPONSE: Yes. The Best Work Practices Order will provide assurance to the source of what is expected to comply with the LRAPA nuisance rules and will also provide more timely relief from exposure for those experiencing the nuisance.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources (level the playing field)?

   RESPONSE: Yes. Once the rules are adopted, LRAPA will be developing guidance for implementation of the rules to ensure that sources are treated equitably.

8. Would others face increased costs if a more stringent rule is not enacted?

RESPONSE: Sources suspected of contributing to a nuisance could face challenges to abate the nuisance from many fronts, including other government agencies and third-party lawsuits. By complying with the Best Work Practices Order, a source would ensure no further enforcement by LRAPA. This may also demonstrate a reasonable attempt at control to other affected parties.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable state requirements? If so, why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

RESPONSE: Not applicable.

10. Is demonstrated technology available to comply with the proposed requirement?

RESPONSE: Yes. Typically, there will be a variety of reasonable abatement options available, although some will be more effective than others.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost-effective environmental gain?

RESPONSE: Yes. With the implementation of the reasonable control measures required by the Best Work Practices Order, emissions will be reduced.

LEGAL AUTHORITY

ORS 183, ORS 468.020, ORS 468A.135; LRAPA Titles 13, 14 and 15

PRINCIPAL DOCUMENTS RELIED UPON

1. Attorney General's Uniform and Model Rules of Procedure
2. OAR 340-208
3. LRAPA Title 12
4. LRAPA Title 32
5. LRAPA Title 48
6. LRAPA Title 50

FISCAL AND ECONOMIC IMPACT OF PROPOSED AMENDMENTS

Industry: As the source of nuisance emissions, an industrial source would bear the brunt of the fiscal impact. The cost of control would depend upon the pollutant causing the nuisance. For example: minor dust fallout problems associated with uncovered trucks loaded with loose material may only require the expenditure of a few thousand dollars to cover the loads; while at the other end of the scale, control of odor emissions might require the installation of a thermal oxidizer at a cost of several hundred thousand dollars and associated annual operating costs..

Public: The public exposed to an air quality nuisance would receive an indeterminate benefit related to greater enjoyment of their personal real property once the nuisance is abated.

LRAPA: Because the agency already works diligently to alleviate nuisance problems, these new rules should not result in any additional cost to the agency. By providing a better mechanism for dealing with nuisance conditions, the new rules could result in some savings to the agency in costs associated with prolonged enforcement proceedings.

Other Government Agencies: Not applicable.

LAND USE CONSISTENCY STATEMENT

The proposed rule amendments are consistent with land use as described in applicable land use plans in Lane County.

PUBLIC COMMENT PROCESS

Notice of the proposed rulemaking was sent in March to LRAPA's list of interested persons, including all holders of Air Contaminant Discharge Permits, Synthetic Minor Permits, and Title V Permits. Copies of the actual draft amendments were sent to everyone who requested them. Comments were received from a number of industrial sources, and those comments have been incorporated into this revised proposal, as appropriate.

The original proposal was presented to the LRAPA Advisory Committee in January and was discussed again at the committee's February meeting. The committee had no formal comments or recommendations regarding the proposed amendments.

Copies of the original proposal were also submitted to EPA Region 10 in Seattle and to DEQ's Air Quality Division for their review and comment. DEQ reviewed the proposed amendments and determined them to be at least as stringent as comparable state rules. At that time we planned to adopt Title 49 as a local rule which would not need EQC approval or submittal to EPA as an amendment to Oregon's State Implementation Plan (SIP). Because the revised proposal includes revisions to some rules which are included in the SIP, the process has changed. We have submitted the revised draft proposal to both EPA and DEQ and have received from DEQ correspondence indicating that the proposed amendments to LRAPA Titles 12, 32, 48, and 50, as well as draft Title

49, are at least as stringent as comparable state rules and authorizing LRAPA to serve as hearings officer for the Oregon Environmental Quality Commission (EQC). If the board authorizes public hearing, it will be a joint LRAPA/EQC hearing.

If hearing is authorized, notice of the hearing will be published in the Secretary of State's Oregon Bulletin, and in the Oakridge Dead Mountain Echo, Eugene Register-Guard, the Cottage Grove Sentinel, and the Springfield News. This will give interested parties additional time to study the revised proposal and provide comments prior to or at the hearing.

Comments received prior to the hearing will be evaluated and, where appropriate, incorporated into another revised draft proposal for presentation at the public hearing. Following the public hearing, the LRAPA board will be asked to adopt the rules, either as proposed or with any changes deemed necessary in response to information received at the hearing. Following adoption, the amendments, along with a hearings officer's report of the public hearing, will be sent to DEQ for adoption by the EQC. Following EQC adoption, DEQ will forward the amendments to EPA for approval as a revision to Oregon's State Implementation Plan.

COMMENTS RECEIVED REGARDING INITIAL PROPOSAL AND LRAPA RESPONSES

LRAPA received written comments from a number of industrial sources, most of which are variations on the same central points identified by Associated Oregon Industries. Those comments, along with a memo from the LRAPA director responding to each point, are attached to this report. Other comments included:

1. Kevin Downing, Oregon Department of Environmental Quality, stated that the proposed rules are at least as stringent as comparable state rules (letter attached).

2. Cliff Boyd, Sony Disc Manufacturing Springfield (SDMS), stated that SDMS agrees with LRAPA's proposal and supports adoption of new Title 49 (letter attached).

OPTIONS FOR BOARD ACTION

1. Authorize public hearing on the proposed new Title 49 and amendments to LRAPA Titles 12, 32, 48, and 50. LRAPA's nuisance rules will conform with those adopted by the state, and all references to nuisance throughout LRAPA's rules will be updated to reflect the provisions of new Title 49.

2. Ask staff to develop a different proposal. The proposed new rules and amendments to existing rules would bring LRAPA's rules into line with state rules, making it possible to have consistent treatment of nuisance problems throughout the state. LRAPA has already responded to the comments received on the original proposal. Given those facts, it is unlikely that a significantly different proposal would result from additional effort.

3. Do not authorize public hearing. LRAPA's nuisance rules would continue to be inconsistent with and less effective than the state's rules.

STAFF RECOMMENDATION

It is staff's recommendation that the board authorize public hearing on the proposed adoption of new LRAPA Title 49 and amendments to LRAPA Titles 12, 32, 48, and 50 at the October 9, 2001 LRAPA Board of Directors meeting.

RK\MJD

Attachment G

MINUTES

LANE REGIONAL AIR POLLUTION AUTHORITY
BOARD OF DIRECTORS MEETING
TUESDAY–AUGUST 14, 2001
LRAPA Meeting Room
1010 Main Street
Springfield, Oregon

ATTENDANCE

Board: Betty Taylor, Chair–Eugene; Don Hampton–Oakridge/Cottage Grove; Dave Ralston–Springfield; Pete Sorenson–Lane County; Carol Tannenbaum–At-Large
(ABSENT: Al Johnson–Eugene; Shannon McCarthy–Eugene)

Staff: Brian Jennison--Director; Sharon Banks; Merrie Dinteman; Drew Johnson; Kim Metzler

1. OPENING: Taylor called the meeting to order at 12:17 p.m.

2. CONSENT CALENDAR (July 10, 2001 minutes and expense reports through June 30, 2001):

   ACTION: MSP(Sorenson/Hampton)(Unanimous) approval of consent calendar.

3. PUBLIC PARTICIPATION: None.

4. DIRECTOR'S REPORT: Ralston said he noticed several cases in the enforcement report which had the same violations but were fined different amounts, and he wanted to know how the penalties are calculated. Jennison explained that LRAPA uses the same civil penalty matrices used by DEQ. The penalty assessed depends on the significance of the violation, together with aggravating and mitigating factors such as whether there were previous violations and whether the alleged violator is cooperative. With open burning violations, the penalty amount is much higher if the violation is for burning plastics or tires than it is for burning woody debris without a burning permit. The size of the fire is also a determining factor. Jennison gave as an example someone bulldozing a barn and then burning it, as opposed to someone burning a small pile of woody debris in their yard. Jennison added that the respondent has the opportunity to admit the violation and agree not to do it again, in which case the agency's policy is to reduce the penalty to settle the case.

   Hampton noted that one of the cases involved a company which was on this list when he was on the board two years ago and seems to be consistently having compliance problems. Jennison said LRAPA has tried to help this company achieve compliance, but that the company has taken advantage of LRAPA. As a result, LRAPA is now resolved to cite the company and put them on the proper permit.

5. OLD BUSINESS:

   Monaco Coach Odor Complaint Situation. Jennison reported that, as of August 13, LRAPA had received 915 complaints regarding the odor from Monaco Coburg in approximately two years. Since

the July board meeting, 54 complaints had been received. Jennison said that he and Robert Koster toured the Monaco facility following the July board meeting to observe the stack extensions, the new fans, and the door closing system which the facility has installed to try to reduce fugitive emissions. He said LRAPA has received no report from Monaco this month on any further plans to reduce the odors, and he said he believes that is in abeyance while they wait to see whether or not the lawsuit can be resolved. Jennison said he had no further information regarding the lawsuit.

Sorenson asked what the trend is regarding the odor complaints during this time while LRAPA has been monitoring this situation, and Jennison said it has remained about the same. The number of complaints has not gone down.

Ralston commented that there has been a reduction in the number of complaints, with 54 since the last board meeting, compared to 75 between the June and July board meetings. Jennison replied that 54 is still a very high number of complaints. Taylor said that a drop in the numbers does not necessarily mean that things are better. It could just be that people are getting tired of complaining all the time. Ralston responded that the opposite could also be true, that just because the number of complaints increases does not necessarily mean that there is actually something to complain about. He suggested that, due to the lawsuit, this could be a self-fulfilling thing to make complaints even though there really is no detectable odor. He added that he does not think anything can be judged by the number of complaints.

Jennison said staff responds to each call to confirm whether or not the odor is present. He said he did not have the number of confirmed complaints at hand, but the number is significant. Staff tries to anticipate when the painting will occur so that a LRAPA investigator can be there when it happens. Samples of the air are taken and fed into the gas chromatograph, and the equipment shows whether or not any of the chemical constituents in Monaco's paint is present in the sample. These objective data show that there still is some level of odor in the community. LRAPA is keeping a list of the sample results, and this information has been supplied to the attorneys on both sides of the lawsuit, as part of their discovery. Jennison added that the information regarding complaints is given to the source so that they can track back to determine what they were doing at the time the complaints came in to see if there is something they can correct to reduce the odors.

Ralston asked if the chemicals are harmful, and Jennison responded that the concentrations which have been detected are in the parts per billion range which characterize a nuisance, rather than the parts per million range which would indicate a potential toxic hazard or possible cancer concern.

Sorenson asked whether Monaco is complying with its permit. Jennison said the materials that Monaco is using are allowed by their permit, and the level of emissions from the facility are within the permitted limits. Monaco is complying with its permit. Jennison added that the facility was permitted under state and federal laws which limited what LRAPA could do to apply Best Available Control Technology (BACT). It was shown that putting on abatement equipment was "too expensive," under the state's policy for BACT; therefore, the source was not required to put on a thermal oxidizer. Jennison said that, in his opinion, the current nuisance odor complaint situation is the direct result of their not having to install the abatement equipment. Although the facility is in compliance with the permit, something needs to be done about the odors; and it may be that Monaco will have to enter into an agreement with LRAPA to further abate the odors.

Hampton asked about the seasonal differences in the odor problem. Jennison explained that summer is the worst time of year because people have their windows open and also spend a lot of time outdoors. In the winter, houses are closed up and people are inside most of the time. It also tends to rain more in the wintertime, washing the pollutants out of the air. In addition, Jennison said wind patterns also change from season to season. In the summertime, the wind often comes out of the north which blows any odors from the plant directly toward the neighborhood from which the complaints have come.

Sorenson then asked if Monaco is in violation of the agency nuisance requirements, and Jennison replied that LRAPA has not yet determined that because the agency has been working with Monaco to try to find an engineering solution to reduce the number of odors. Jennison added that, at some point in the not-too-distant future, the LRAPA board may decide that Monaco is, in fact, violating nuisance rules, in which case LRAPA would declare them in violation and proceed to try to get them to abate the odors. Taylor asked at what point the board could do that, and Jennison said it could be done at any point. He added that staff would like to bring that to the board as a recommendation at the point when staff believes that all other avenues have been exhausted. Taylor asked if the board could count on that in September, and Jennison said it could not. He said the alternative would be the board directing staff to make a finding of nuisance violation; but he does not see anything being resolved sufficiently in the next month to allow LRAPA to make that distinction. Jennison referred to a later agenda item requesting authorization of public hearing on nuisance rules and said he would like to get the rules adopted before taking any action regarding Monaco so that LRAPA will be consistent with DEQ in how nuisance situations are handled. Jennison added that he believes operating under the proposed rules would make LRAPA's case stronger. He also would like to see if anything comes of the negotiations in the lawsuit.

6. ADVISORY COMMITTEE: Metzler had nothing new to report because the committee has been on a break for the summer.

7. PUBLIC HEARING ON PROPOSED AMENDMENTS TO LRAPA TITLE 36 (EXCESS EMISSIONS RULES):

Ralph Johnston explained that the proposed adoption of amendments to LRAPA Title 36 would correct a deficiency in the public notice requirement when the rule was originally adopted in 1992. It would also bring the rules up-to-date with excess emissions policies adopted by EPA in 1999. Johnston explained that Title 36 provides a process for LRAPA to deal with "excess emissions," or emissions that are in violation of emission standards and permit conditions. These excess emissions often occur when a facility starts a piece of equipment or shuts one down, or when maintenance needs to be done on equipment. The emissions could also happen if there is a power outage or a piece of equipment breaks down. Johnston cited as an example a boiler which is allowed by its permit a certain number of minutes per hour to clean grates or some other type of activity which can cause smoke to occur. If the boiler emits smoke for longer than the permitted time limit, the time over the limit represents excess emissions. Jennison added that Title 36 allows the agency to take into consideration any mitigating circumstances and, perhaps, not issue a notice of violation in that instance, as long as the source can demonstrate what caused the excess emissions and what they did to control the situation. Johnston said that both EPA and DEQ have reviewed the proposed rules and have declared that the rules meet both federal and state requirements.

Public Hearing. Taylor opened the public hearing at 12:40 p.m. Jennison entered into the record affidavits of hearing notice publication in four local newspapers and in the Oregon Bulletin published by the Secretary of State's office. Taylor then asked if anyone present wished to speak either in favor of or in opposition to the proposed amendments to Title 36.
Richard Brown, 91228 North Miller Street in Coburg, Oregon asked for clarification regarding the draft rule. He said it appeared to him that a large section regarding enforcement was to be deleted. Johnston explained to him that the words with horizontal lines through them were to be deleted, and the words which were highlighted are to be added. The section regarding enforcement was a highlighted section to be added to the rule.

Hearing no further comments, Taylor closed the public hearing at 12:42 p.m.

ACTION: MSP (Sorenson/Ralston)(Unanimous) adoption of amendments to Title 36, as proposed.

Hampton commented that it would be helpful for future rulemaking if the staff report started with a simple explanation of the purpose of the rule and how it would change if a proposed change were adopted. Jennison said staff can make that change for future presentations.

8. REQUEST FOR AUTHORIZATION OF PUBLIC HEARING ON PROPOSED ADOPTION OF NEW TITLE 49 (NUISANCE CONTROL REQUIREMENTS) AND ASSOCIATED AMENDMENTS TO TITLES 12, 32, 48, AND 50:

Jennison explained that the Authority receives numerous nuisance complaints each year which are concerned primarily with odors or fugitive dust emissions that are not related to industrial source permit violations or open burning activities. Under the current regulations, these cases can require significant resources to attempt to resolve. The DEQ recently adopted new nuisance regulations designed to deal with nuisance situations more effectively by making determination of nuisance conditions more objective and consistent. The proposed new Title 49 would adopt the newly adopted DEQ rules, essentially verbatim. As part of this rulemaking, references to nuisance in Titles 12, 32, 48 and 50 would also be amended to refer to Title 49. Jennison said that once the rules are amended as proposed, the Authority should be on firmer ground in dealing with nuisance situations.

Johnston said that staff had planned, initially, to adopt new Title 49 as a local regulation. The draft Title 49 was sent to all permitted sources and other interested parties earlier in the year, and most of the comments received from industry indicated a desire to have all references to nuisance addressed as part of the same rulemaking process. LRAPA agreed, but because several of the other titles which refer to nuisance are included in Oregon's State Implementation Plan (SIP), the more formal SIP rulemaking process must be followed. Johnston pointed out that the proposed Title 49 includes best work practices requirements, as well as using Highest and Best Practicable Treatment, both of which should put the agency in a stronger position for enforcement in a nuisance situation than the current rules do.

Sorenson asked if DEQ has had any experience with its new rules to determine how well they work; and Johnston responded that, from his discussions with DEQ staff, he believes that they have not used

the rules enough to know how well they will work and do not yet have a formal policy for how they will work with the rules.

Sorenson asked staff to explain why a permitted source should be exposed to a more subjective rule such as a nuisance rule when they already have emissions limits and process requirements in their permit. Jennison explained that the permit is a consideration; however, a permit issued by this agency deals with controlling specific emissions from the emission points of the facility. Boundary odor situations are outside the purview of the permit. A source could well be in compliance with its permitted emissions, and yet those emissions come to ground in such a way that they cause an odor nuisance to the facility's neighbors. Title 49 is meant to give LRAPA a tool to try to deal with that type of situation. Sorenson asked if the rule would make it easier or harder for the public to get regulatory assistance from LRAPA in dealing with what they believe to be a nuisance situation. Jennison said the objective is to make it easier for the public to gain relief by making it easier for LRAPA to enforce a reasonable nuisance regulation. Sorenson asked if there will be more or fewer nuisances with the rule, and Jennison responded that there are not very many now. He added that he has found no record that the agency has ever declared a facility to be a nuisance.

Ralston asked if all agencies, both private and public, are affected by this rule, and Jennison said that it would affect only sources subject to regulation by the Authority. This immediately exempts sources such as agricultural operations. Ralston said he lives downwind from the Glenwood transfer station and that he considers the odor from that facility to be a nuisance. He asked what could be done about that. Jennison responded that this rule could apply to the transfer station if the citizens of Glenwood are impacted by it to the point where they call LRAPA about it and LRAPA responds and confirms the presence of odors coming from that facility. Ralston said this same situation could apply to Weyerhaeuser, and he expressed concern about opening the door for more Monaco-type situations if the board adopts a rule which gives more "teeth" to people's complaints. Jennison said the door is already open with the existing language in the rules, under which the agency could take action. The proposed rulemaking action would codify all nuisance language together in the same place and update LRAPA's rules to make them consistent with the way the rest of the state looks at the problem. Rather than creating more problems, it is hoped that this rule will provide better definition and more effective means of dealing with nuisance problems.

Ralston asked if there would be fines associated with violation of this rule. Jennison said there could be, but that would not be handled as part of this rule. Any formal enforcement and fines would be handled under existing enforcement rules, and the civil penalty could potentially be as high as $10,000 per day for violating the rule, depending on the situation.

ACTION: MSP (Sorenson/Hampton)(Unanimous) authorization of public hearing on proposed adoption of new Title 49 and amendments to Titles 12, 32, 48, and 50 at the board's October meeting.

Taylor suggested that if board members have further questions about this proposal, they get those questions to Jennison prior to the October meeting so that he can be prepared to answer them at that time.

9. HOME WOOD HEATING–PUBLIC EDUCATION DURING ELECTRIC POWER CRISIS: Al Johnson was not able to be at this meeting. Because he was the board member who requested this information, it was decided to postpone this item until he is able to be present.

10. ENRON PROPOSAL TO SITE ELECTRIC POWER GENERATION FACILITY AT COBURG:

Dave Baker, a consultant with IBC/CH2M-Hill, gave a brief description of the power generation facility being proposed for location in Coburg, southwest of the existing Willamette Industries facility. Baker explained how the 605 megawatt nominal rated combined cycle power plant would work. There would be two natural gas-fired gas turbines and one steam turbine. The natural gas-fired boilers would also have the capability to burn low-sulfur diesel fuel if the natural gas supply were lost or interrupted for a time. Baker said that this general design is the most common among the many plans currently in process for new power facilities along the West Coast, and the reason for that is because it is extremely fuel efficient. LRAPA Advisory Committee member Fred Walter asked what the fuel efficiency would be with this system, and Baker said the overall thermal efficiency would be about 50 percent. Walter commented that hydroelectric is 85 percent efficient.

Baker then spoke about the pollutants which would be generated by the proposed facility. When compared to other sources of nitrogen oxides in Lane County's airshed, Baker said the anticipated amount from this plant would be relatively minor at 183 tons per year, if the plant were operating at nominal capacity throughout the year. Baker explained that nitrogen oxide emissions would convert to nitrogen dioxide, for which there is a health-based standard. Nitrogen dioxide also contributes to photochemical oxidant formation and converts to very fine particles called nitrates further downwind, becoming a visibility concern in Class I Wilderness areas. Jennison said Lane County would be concerned with the impact on the Three Sisters Wilderness Area. Regarding carbon monoxide, Baker said the anticipated emissions would be about 200 tons per year, which would represent a relatively small amount of county-wide emissions. There would be some sulfur dioxide contributed both from the odorant added to natural gas as a safety measure and from fuel oil which would be burned occasionally when needed. Baker estimated about 50 tons per year of sulfur oxides. Emissions of fine particulate, PM_{10}, mostly from the fuel oil, were estimated at about 70 tons per year. Emissions of Volatile Organic Compounds, which is products of incomplete combustion, would be about the same as PM_{10}.

Baker explained the measures proposed to control emissions as tightly as possible, including state-of-the-art low-NO_X burners to burn the gas that goes into the turbines and a catalytic reduction system to chemically break up the NO_X into elemental nitrogen and oxygen. The catalyst proposed for this system would be about 90 percent efficient. The result of these measures would be to reduce nitrogen oxides emissions to about 2.5 parts per million when it is emitted from the stack, compared to about 150 parts per million emissions in the past with older technology. An oxidation catalyst of about 70 to 80 percent efficiency will reduce Carbon Monoxide and Volatile Organic Compounds to single-digit parts per million at the stack. Sulfur emissions would be controlled by using very low-sulfur fuel.

Baker went on to say that the proposed facility would have to meet New Source Performance Standards for turbines. In addition, because the anticipated emissions would put the facility into the major source category for air quality permitting, the company would have to go through Best Available Control Technology, by which process the company would proposed to LRAPA what they think the best control

technology is and LRAPA would do an independent evaluation to determine whether LRAPA agrees with the company's assessment. To satisfy Prevention of Significant Deterioration requirements (PSD), they will also be required to do dispersion modeling using an EPA-approved computer model, inputting anticipated emissions and parameters for the plant, such as stack heights and diameters and exit velocities, to predict what the ground-level concentrations of the pollutants would be, both in the nearby Eugene-Springfield (Class II) area and in the wilderness (Class I) areas. There are national PSD standards which must be met, and there are incremental increases written into the law so that a new source is allowed to increase criteria pollutants in the airshed by only a certain incremental amount for each pollutant. Baker described another requirement, Air Quality-Related Values (AQRV), as anticipated impacts in Class I wilderness areas on visibility, acid deposition, effects on soil and other criteria.

Sorenson said it would be helpful to get some information regarding how this proposed project would impact Lane, Linn and Benton counties, given the proximity of the proposed location to all three counties. He said he also would like to get a sense of how this project fits into the overall load within the valley, given projections the population will double within the next fifty years. Sorenson also said the board would be interested in very localized dispersion modeling because of the current air quality problem LRAPA is dealing with in Coburg. Baker said the modeling will show impacts starting at the plant property line and going all the way out to a point at which the levels drop down to insignificant.

Sorenson asked if power plants are exempt from land use laws, other than the criteria considered by the Energy Facility Siting Council (EFSC). Gary Marcus of Coburg Power responded that the land on which the proposed facility would be located is currently zoned Existing Farm Use, and current law allows a power plant such as this to be located on 12 acres of this type of land. He said the old law, the intent of which was to get as many megawatts per acre as possible, allowed 20 megawatts per acre. This plant would generate 600 megawatts on 17 acres. Coburg Power is looking at a five-acre difference and would propose to the EFSC that the unique features of this land would qualify for an exception for those five acres. The application has been submitted to the EFSC, which will appoint some kind of body in Lane County to conduct a public process involving the county before making its final decision on the application.

Ralston asked if there are any odors associated with this type of facility, and Baker responded that no odor problems are anticipated because the discharge from the burning of natural gas and occasional fuel oil would be 250 feet above the ground.

As a point of clarification, Marcus pointed out that the proposed power plant is a Coburg Power LLC project, not an Enron project. Marcus said the location for the proposed plant was chosen because it provides three elements necessary to generate electricity and keep it contained: there is a natural gas line which runs directly beneath the property; there are BPA transmission lines a half mile away; and there is water at the site. Marcus pointed out that construction of transmission lines is destructive to the environment through which they run. The projected growth of the area would mean construction of more transmission lines; however, building this power plant at this location would reduce the need for additional transmission lines. In fact, Marcus said, with the projected growth, a power plant would need to be built at some point, anyway. Marcus also pointed out that the technology proposed for this plant will run very cleanly and will not produce odors around the plant, and that the total emissions of criteria pollutants would add only 0.2 percent to the total currently existing in Lane County. He also said it will be very quiet because this is quiet technology. He said he does not believe it would be

possible to hear the plant from a quarter of a mile away, and there are no houses within that distance from the proposed site. Marcus explained that Oregon is the only state in the country with a tax on emissions of carbon dioxide. The amount of tax which would be paid by this project would be between $7- and $9-million, and the funds would go to the Oregon Climate Trust for use in carbon dioxide mitigation measures. The Trust is currently doing things such as planting trees and purchasing rain forests which have proven value for mitigation of carbon dioxide. Marcus said this is an opportunity to work with the other utilities in Lane County to propose mitigation of not only carbon dioxide but other emissions. He suggested that if EWEB, EPUD, or SUB had a program to eliminate woodstoves, they could reduce not only carbon dioxide but, possibly, the four percent of woodstoves that make up much of the rest of the criteria pollutants in the county, effectively bringing the net emissions from the plant to zero. Another point Marcus made was that other industries in the area must truck in their raw materials from elsewhere. He cited as an example wood products industries for which trees are cut down and trucked to the mills. Then there are emissions from the vehicles which deliver the finished products. The proposed power plant would get its natural gas from underground and would send its product, electricity, out over the transmission lines, and would thus not require that anything be trucked to or from the facility for the manufacture or distribution of its product. He added that the plant would require only 24 full-time employees to operate and so would not require large parking lots with a lot of vehicles coming and going.

Tannenbaum asked where the 605 megawatts to be produced would go, and Marcus responded that the electricity will be used at the closest source–primarily in Lane County. As to whether or not local utilities will purchase this power, Marcus said they probably would not purchase it directly. If BPA has needs beyond what they can provide, they might purchase some of this power and meld it into their own rates. Marcus said there are no power plants being built today which can afford to sell power at the low rates of dams which were built in the 1930s. This plant, like virtually all other plants today, would be a merchant plant which would sell power into the grid from which the power is bought by others. But the power would be used in Lane County.

Sorenson explained that Lane County has problems in several areas due to smoke from woodstoves, and the board is concerned about increased use of woodstoves–especially by low-income households–in light of the current energy crisis and rising prices for electric power. He asked how the funds being paid to the Oregon Climate Trust could be used to help resolve the problems Lane County has with emissions from home wood heating smoke. Marcus said Coburg Power has met with SUB and intends to meet with EWEB and all the other utilities in the area to let them know that there is money available to create programs to propose to the Climate Trust. If projects can achieve goals through actions which reduce carbon dioxide emissions, then the Trust might be open to suggestions that would mitigate a combination of carbon dioxide and other pollutants. Marcus said he hopes that a public education program could help reduce the impact of woodstoves. He said Coburg Power has no control over the projects funded by the Trust; they can only hope that the local utilities develop something that controls not only carbon dioxide but also the other criteria pollutants. He said that one drawback to the program is that whatever is proposed and authorized would have to be monitored for thirty years to ensure that the mitigation remains in effect over time.

Jeff Shields of Enron was also present at this meeting and explained further the constraints of the mitigation projects which can be approved under the statutory responsibility under which the Oregon Climate Trust operates. He said his company has met with the Trust to try to convince them that the

company's preference is to mitigate pollutants where the company's power plants are located. The Trust does have a priority for Oregon projects. The funds might not purchase as much mitigation potential in Lane County as if it were spent somewhere else on the globe; but there would be some local benefit by accomplishing that. He said Enron would be glad to work with anyone who has ideas for projects and that they will be formally asking for proposals from the local utilities. Sorenson asked for Shields's opinion of what LRAPA's role should be as this project develops, and Shields replied that LRAPA's decision regarding permitting must be made on the basis of what is statutorily required with regard to criteria pollutants to be generated by this facility.

Shields said that both he and Marcus are committed to making the Coburg plant the best plant in the nation. Lane County produces somewhere around 250 megawatts and must import around 1000 megawatts on peak. This situation will only become worse as population increases, and Lane County will need to import more and more power. Conservation efforts are important and need to continue to be encouraged, but the only way to really correct the situation is to have the capability of generating more power in the county.

Marcus added that high-tech industries and other kinds of clean industries such as medical facilities require high quality electricity which Lane County does not have at present. He said construction and operation of this type of power generation facility could lay the foundation for cleaner industry to locate in Lane County by providing higher quality power.

Taylor asked what the board's role is in the permitting process, and Jennison explained that staff will evaluate the permit application when it is received and then will fast-track the permitting process. He said Robert Koster is putting his first emphasis on these types of energy projects. The applicant is responsible to do the modeling, and if the modeling shows limited impacts within the law, the facility could be permitted. What Coburg Power is proposing could be permitted under LRAPA's current regulations. From an air pollution perspective, the proposal represents a clean facility under federal, state and local rules. Taylor asked if the board will have any part in the permitting process, and Jennison said staff will keep the board informed on how the process is going. If the board were to direct staff not to issue the permit, Jennison said staff would not issue the permit. But he said he would expect the board to be subject to being sued to issue the permit. If LRAPA did not have objective reasons, based on law, for not issuing the permit, the permit would probably have to be issued eventually.

Sorenson asked what would be the process following the informal presentation at this meeting. Jennison said the company will submit a permit application to LRAPA to show what they plan to build and what the emissions are expected to be. They will also show that they have done the Best Available Control Technology analysis and will submit modeling results. LRAPA staff will then analyze the information. DEQ staff has volunteered to help with analyzing the modeling. Following the evaluation, the permit would be proposed and placed on public notice for a period during which citizens could comment on it. It would also go to the forest service for Federal Land Managers to comment on the modeling for impacts on wilderness areas. Any comments received would be incorporated into the permit, possibly resulting in changes to the permit requirements. Assuming all legal requirements are met, the permit would be issued following the public notice period. Jennison added that, given the nature of this proposal, staff will update the board monthly regarding progress on the permit. Sorenson said he has some questions about the modeling. He said that when Coburg Power

submits information for staff review he would like that to be put on the board's agenda as an update. Jennison said staff will take every opportunity to keep the board informed during this process. He added that there will be public hearings and forums at which the information will be made available.

Sorenson asked if it would be possible to hear from the Oregon Climate Trust regarding how the carbon dioxide tax is used and how its use is decided. Jennison said staff will ask them to come to a board meeting to explain their program if that is what the board wants. Sorenson said it would be good to make the Trust aware of Lane County's specific concerns regarding air quality, and Jennison said LRAPA can continue to give them LRAPA's concerns about particulate matter, even though the interest of the Trust is carbon dioxide.

11. NEW BUSINESS: None.

12. ADJOURNMENT: The meeting adjourned at 1:52 p.m. The next regular meeting of the LRAPA Board of Directors is scheduled for Tuesday, September 11, 2001, at 12:15 p.m., in the LRAPA meeting room at 1010 Main Street in Springfield, Oregon.

Respectfully submitted,

Merrie Dinteman
Recording Secretary

Attachment H

Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
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Post-it® Fax Note 7671	Date 7/27	# of pages ▶ 1
To Merrie Detweiler	From Loretta Pickerell	
Co./Dept. LRAPA	Co. DEQ	
Phone #	Phone # 503 229-5586	
Fax # (-541-726-1205	Fax #	

July 27, 2001

Brian Jennison, Director
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

Re: Proposed Amendments to LRAPA Title 49, Nuisance Control Requirements

Dear Brian:

This office has reviewed the proposed amendments to LRAPA's Title 49 Nuisance Control Requirements and related changes in Titles 12, 32, 48, and 50, submitted July 9, 2001. We find the proposed regulations to be as substantively stringent as comparable rules of the Department of Environmental Quality.

We hereby authorize LRAPA to act as Hearings Officer on behalf of the Environmental Quality Commission for public comment on these rule amendments, including the proposal to amend OAR 340-200-0040 to incorporate relevant portions of these rule amendments as modifications to Oregon's State Implementation Plan. If you have any questions, please contact Loretta Pickerell at 503-229-5556.

Sincerely,

Andrew Ginsburg

Andrew Ginsburg, Administrator
Air Quality Division

AG:LP:lw
LTR/AQ78296.doc

Attachment I

LRAPA
Lane Regional Air Pollution Authority

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MEMORANDUM

To: Commentors on Proposed New LRAPA Rule, Title 49 "Nuisance Control Requirements"

From: Brian Jennison, Ph.D., Director BJ

Date: May 3, 2001

Subj: Response to Comments on Proposed Title 49

Several Lane County industries and the Association of Oregon Industries (AOI) took the opportunity to comment on the proposed new LRAPA rules in Title 49 (Nuisance Control Requirements). LRAPA appreciates your efforts to provide these comments.

Although provided by several sources, the comments were very similar, and can be readily summarized. The summarized comments with the LRAPA's responses follow.

1. **LRAPA should adopt the DEQ nuisance rules in their entirety.**

   Response: DEQ Division 208 addresses both visible emissions and nuisance rules. LRAPA is proposing to adopt only the DEQ "Nuisance Control Requirements." The proposed changes incorporate the following DEQ rules:

   49-005 incorporates the two new definitions in 340-208-0010
   49-010 incorporates 340-208-0300
   49-020 incorporates 340-208-0310
   49-030 incorporates 340-208-0320
   49-040 incorporates 340-208-0400
   49-050 incorporates 340-208-0550-1
   49-060-1 incorporates 340-208-0510
   49-060-2 incorporates 340-208-0590

2. **LRAPA should delete other nuisance regulations in the rules when Title 49 becomes effective.**

   Response: LRAPA agrees with this comment and is currently reviewing the occurrence of other nuisance regulations in the rules. Where it is appropriate, other

rules will be deleted or modified to reflect the new Title 49. However, this action will require a formal SIP change and therefore a longer administrative process.

Several commentors referred to rule 31-020 as needing to be deleted. Note that Title 31 was deleted in its entirety from LRAPA rules in 1988. Please be aware that current LRAPA rules can be viewed and downloaded from the LRAPA web site (www.lrapa.org).

3. **LRAPA should amend 32-055 to be consistent with 340-208-450 (the 250 μm rule).**

Response: LRAPA has found this to be an effective rule as written, and there appears to be no substantive reason to adopt the new DEQ language.

4. **LRAPA should delete 49-040 since similar language appears in 33-030-2.**

Response: As noted above, 49-040 directly incorporates the language of the DEQ rule. Therefore, failure to adopt this section would make LRAPA rules less stringent than DEQ rules. Subsection 33-030-2 may need to be deleted or modified to reflect this new language.

5. **LRAPA should delete 49-050 since similar language appears in 32-005.**

Response: The DEQ also has references to Highest and Best Practicable Treatment (HBPT) in their permitting rules and still adopted nuisance rules which incorporated HBPT. As noted above, 49-050 directly incorporates the language in the DEQ rules. Although the DEQ rule only affects the four counties which encompass the Portland Metropolitan Area, LRAPA believes it is reasonable to also apply the rule to Lane County, the state's second largest metropolitan area. Section 32-005 may need to be modified to reflect the new language.

Once again, thank you for your comments. You will be informed when a new draft of the proposed nuisance rule changes is available for comment.

REJ/BLJ

Sony Disc Manufacturing

TO: orig: file
copy: RK
RJ
BLT

_____

FILE _____

123 International Way
Springfield, Oregon
97477-1047

(541) 988-8000
FAX (541) 988-8099

April 3, 2001

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

Dear Ms. Dinteman:

Sony Disc Manufacturing Springfield (SDMS) reviewed LRAPA's memo dated March 6, 2001 regarding the proposed adoption of Title 49. SDMS agrees with LRAPA's proposal and supports adoption of the rule.

Thank you for the opportunity to provide feedback.

Sincerely,

Cliff Boyd
Manager Industrial Engineering

CB/jp

cc: Tom Costabile - SDM
Mike McVey - SDM
Judi Younce - SDM

Willamette Industries, Inc.
Western Administrative & Sales Office

2730 Pacific Blvd. S.E.
P.O. Box 907
Albany, OR 97321
(541) 926-7771

ROUTE TO:

EI #

FILE

RECEIVED
APR 16 2001
LANE REGIONAL AIR POLLUTION AUTHORITY

April 13, 2001

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

RE: Comments on Proposed Title 49 - Nuisance Rules

Dear Ms. Dinteman;

Thank you for this opportunity to comment on the proposed revisions to the LRAPA Title 49 rules. We understand that most of the rule proposal seeks to incorporate the recent DEQ revisions to Division 208 and we support LRAPA's efforts to incorporate these revisions into the Lane Regional rules. We also support greater consistency between LRAPA and DEQ.

Particulate Matter 250 Micron Rule
We suggest that LRAPA adopt the DEQ revisions to its nuisance rules, in their entirety, as all of the components were intended to work as a single package and address known issues. Specifically, DEQ the 250 micron rule, to address historical issues that (a) cause conflict with the new nuisance rule, and (b) create compliance certification issues for Title V sources as the result of the rules very broad scope. This same rule appears in LRAPA 32-055 and we suggest that it be amended to be consistent with the DEQ language.

Odor Regulations
In order to maintain consistency and avoid duplication within its rules, we also urge LRAPA to delete its other nuisance provisions, effective upon promulgation of Title 49. LRAPA has multiple nuisance prohibitions scattered throughout its rules, such as 31-020, 32-090, and 50-020. We believe that the retention of these rules once Title 49 is implemented will result in confusion and affords a source no protection or incentive to enter into a Best Work Practices Agreement if still determined to be in violation of LRAPA 50-020.

Section 49-050
Willamette strongly encourages LRAPA to delete 49-050 from the proposed rule package since the Authority already has the "highest and best" authority in 32-005, a regulation that specifically addresses odors.

Willamette Industries appreciates the opportunity to comment on the proposed rules. Please call if you have any questions regarding these comments.

Sincerely,

Jon Lund

Jon Lund
Willamette Industries, Inc.

cc: Corey Unfried, Manager, Environmental Affairs

Weyerhaeuser
The future is growing™

16791 SW Martinazzi Avenue
Tualatin OR 97062
PO Box 244
Tualatin OR 97062
Tel (503) 692 0668
Fax (503) 692 1602

April 13, 2001

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

RE: Comments on Proposed Rulemaking - Title 49

Dear Ms. Dinteman:

Thank you for the opportunity to comment on behalf of Weyerhaeuser Company concerning the proposed revisions to Title 49 of LRAPA's rules. Weyerhaeuser has reviewed the proposed rules and the comments offered by AOI and we support and agree with AOI's comments.

Rule Consistency

Verbal comments were offered by LRAPA staff in a recent Board of Directors meeting that characterized the proposed rule changes in Title 49 as bringing "consistency" between LRAPA and DEQ relative to nuisance concerns. Based on AOI's and our own analysis of the proposed changes, there appears to be a need to "clean up" other references within the rules regarding references to nuisance impacts. As an example, the proposed language in 49-040 is functionally redundant with existing language in 33.030.2. We don't see the need for Section 49.040. We encourage LRAPA to take the time to make the necessary changes within all of the agency's rules to have clarity around the interpretation of "nuisance" and ensure that LRAPA's rules are truly consistent with DEQ.

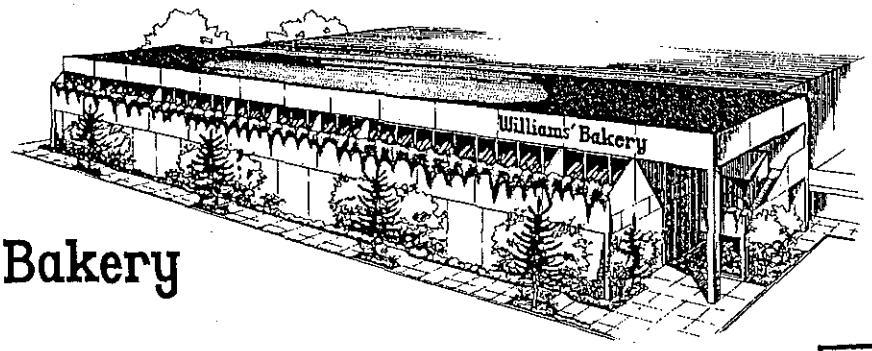
Section 49-050

Weyerhaeuser believes the language in the section would create some troublesome ambiguities for the regulated community. As AOI's comments pointed out, a precise interpretation of this language is not possible. If the intent of Section 49-050 was to create a new regulatory standard for "highest and best" control, a more formal rule making activity should be undertaken by LRAPA. If this was not the intent, the existing language in Section 32-005 would seem to serve LRAPA's needs adequately.

We urge LRAPA to drop Section 49-050 from the final rule package.

Weyerhaeuser appreciates the opportunity to offer comments. Please call with any questions.

Sincerely,



Williams' Bakery

P.O. Box 1375
1760 E. 13TH
EUGENE, OREGON 97440
PHONE: (541) 485-8211
FAX: (541) 485-6538

TO: orig: file
copies: BK
RJ
BLT

April 12, 2001

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

Regarding: Proposed Title 49

Dear Ms. Dinteman

Williams' Bakery hopes that we never run afoul of LRAPA's nuisance requirements. However, I have fielded a lot of complaints about how irritating the smell of fresh baked bread can be on would be dieters or hungry college students next door! We appreciate how hard it is to balance all concerns in arriving at fair and equitable nuisance rules and are grateful for the opportunity to share our input with you.

We support your efforts to incorporate the recent DEQ revisions to Division 208 into Lane Regional rules. We strongly favor consistency in rulemaking between regulatory bodies and believe that the DEQ revisions are reasonable and balanced.

In order to maintain consistency and avoid duplication we urge you to consider the following actions:

1. Delete other nuisance rules effective once Title 49 becomes effective. This will avoid confusion/duplication and insure that Title 49 provisions are properly carried out.
2. Adopt the DEQ nuisance revisions in their entirety. They work together as a whole. This will entail modifying LRAPA 32-055 to be consistent with DEQ revised OAR 340-208-450.
3. Delete the proposed Section 49-040. This language already appears in 33-030.2.
4. Delete the proposed 49-050. The language is ambiguous. If it means to give LRAPA the authority to apply the "highest and best" rules to odor issues, it already has that authority under 32-005, a regulation that specifically addresses odors. Why duplicate it? Stating that the "highest and best" must be "installed and operated" looks like a new control technology standard. If it means to broaden the authority of LRAPA to impose a new control technology standard, then we object and consider such actions as adopting a major new rule.

Thank you again for the opportunity to discuss our concerns regarding the proposed rules. Please call if you have any questions regarding these comments. I can be reached at 485-8211, extension 223.

Yours truly

Clyde Carson

Clyde Carson
Manager, Sanitation/EHS etc., Williams' Bakery

Industrial Finishes & SYSTEMS, INC.

April 23, 2001

ROUTE TO: orig: file
copies to: RK
RJ
BLS
EI
FILE

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield, OR 97477

Re: Comments on Proposed Title 49

Dear Ms. Dinteman:

Thank you for this opportunity to comment on the proposed revisions to the LRAPA Title 49 rules. Industrial Finishes supplies several small commercial and industrial sources that will be potentially impacted by the proposed rules. We understand that most of the rule proposal seeks to incorporate the recent DEQ revisions to Division 208. We support LRAPA's efforts to incorporate the DEQ rule revisions into the Lane Regional rules. However, Industrial Finishes also believes there should be greater consistency between LRAPA and DEQ's rules and that the rules, wherever possible, should be made clearer and simpler. To the extent that the proposed rules do track DEQ's rules, we support LRAPA's actions, but we do not support additional requirements added to the rule that add confusion and remove source protections.

In order to maintain consistency and avoid duplication and confusion within its rules, we also urge LRAPA to delete all other nuisance provisions within its regulations. Within various chapters of the rules, LRAPA has multiple nuisance; i.e., 31-020, 32-090 and 50-020. We believe that the retention of these rules, once Title 49 is implemented, will result in confusion for sources and potentially negate the effectiveness of the new rule. Comparable, it was the expressed intent of the DEQ nuisance rule revisions to eliminate out-of-date and contradictory rule requirements, such as the reference to scentometers in 31-020. We believe that it is in the best interest of everyone to make Title 49 the ultimate general nuisance regulation.

One of the most concerning issues in the proposed rule is found in section 49-050. We strongly encourage LRAPA to delete section 49-050 from the proposed rule package. It is difficult to understand what LRAPA intends to achieve with this section of the rule but it seems to undermine the primary purpose of the Best Work Practices Agreement. We strongly believe that the current latitude under a Best Work Practices Agreement serves both LRAPA and the regulated source.

P.O. Box 2824 EUGENE, OR 97402 (541) 485-1503
5341 SE McLoughlin Blvd. PORTLAND, OR 97202 (503) 233-1436
10355 SE Foster Rd. PORTLAND, OR 97266 (503) 788-7243
10239 SE Foster Rd. (Equip) PORTLAND, OR 97266 (503) 777-5168
345 NE 8th GRESHAM, OR 97030 (503) 666-5606
3000 Portland Rd. NE SALEM, OR 97303 (503) 371-3032
1227 NE Walnut ROSEBURG, OR 97470 (541) 673-3707
955 SE Wilson BEND, OR 97702 (541) 388-7372
1010 Fisher Ave. MEDFORD, OR 97504 (541) 772-6238
612 Nelsons Pkwy. #2 WAKARUSA, IN 46573 (219) 862-1324

In closing, Industrial Finishes is not opposed to establishing new rules that will provide appropriate measures for combating potential nuisances. However, we find that some of the proposed amendments to the recently promulgated DEQ nuisance rule are confusing and unnecessary. We strongly encourage LRAPA to take this opportunity to clarify and unify current nuisance rules. Adding section 49-050 to the proposed rule adds to the conflicts with the State rule and confusion within the proposed rule. Thus, we encourage LRAPA to delete 49-050 from the final rule package.

Thank you for the opportunity to comment on the proposed rules.

Sincerely,

Dennis Taylor
General Manager

1149 Court Street NE
Salem, OR 97301-4030

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Salem 503/588-0050
Portland 503/227-5630
Oregon 800/452-7862
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E-mail: aoi@aoi.org
Web page: http://www.aoi.org

ASSOCIATED OREGON INDUSTRIES

April 13, 2001

Ms. Merrie Dinteman
Lane Regional Air Pollution Authority
1010 Main Street
Springfield OR 97477

Subject: Comments on Proposed Title 49

Dear Ms. Dinteman:

Thank you for this opportunity to comment on the proposed revisions to the LRAPA Title 49 rules. Associated Oregon Industries (AOI) represents several industrial sources that will be potentially impacted by the proposed rules. We understand that most of the rule proposal seeks to incorporate the recent DEQ revisions to Division 208. We support LRAPA's efforts to incorporate the DEQ rule revisions into the Lane Regional rules. AOI was actively involved in discussions with DEQ prior to the rule adoption, and while we may not agree with every aspect of the rules, we believe that overall they are a good approach to satisfying all the various interests.

AOI also supports greater consistency between LRAPA and DEQ. Therefore, to the extent that the rules track the DEQ rule package, we support LRAPA's actions. However, we have concerns, as identified below, about those areas where either the proposed rules differ from the DEQ rule package and/or the proposed rules would duplicate existing LRAPA regulations. Our comments and concerns are explained in more detail below:

250 Micron Rule:

We suggest that LRAPA adopt the DEQ revisions to its nuisance rules, however, in their entirety, as all of the components were intended to work as a single package and address known issues. Specifically, DEQ revised OAR 340-208-450 (previously OAR 340-208-0620), the 250 micron rule, to address historical issues with that rule that (a) cause conflict with the new nuisance rule, and (b) create compliance certification issues for Title V sources as the result of the rules very broad scope. This same rule appears in LRAPA 32-055. We suggest that this rule be amended to be consistent with the DEQ language. We understand that this regulation, being a nuisance regulation, is not part of the SIP.

Duplicative Odor Regulations:

In order to maintain consistency and avoid duplication within its rules, we also urge LRAPA to delete its other nuisance provisions, effective upon promulgation of Title 49. LRAPA has multiple nuisance prohibitions scattered throughout its rules, such as 31-020, 32-090 and 50-020. We believe that the retention of these rules, once Title 49 is implemented, will result in confusion for sources and potentially negate the effectiveness of the Best Work Practices Agreements proposed in 49-030. The fact, as stated in 49-020.2, that a Best Work Practices Agreement constitutes compliance with 49-010 affords a source no protection or comfort so long as it still could be determined to be in violation of LRAPA 50-020. This will erase any incentive a source will have to enter into a Best Work Practices Agreement. This was certainly not the intent in developing this option. In addition, it was the expressed intent of the DEQ nuisance rule revisions to eliminate out-of-date and useless rule requirements, such as the reference to scentometers in 31-020. We believe that it is in the best interest of the proposed rules, the agency, and the community, to make Title 49 the "one stop shopping" for general nuisance regulations, and that this rulemaking is the appropriate time to eliminate the other nuisance references.

Section 49-040:

We believe that the proposed language in 49-040 should be deleted from the proposed rule package. This language already appears in 33-030.2. We do not believe that it is necessary or appropriate to repeat that language in Title 49.

Section 49-050:

We strongly encourage LRAPA to delete the proposed 49-050 from the proposed rule package. There are two ways to interpret the proposed language, either LRAPA intended to extend the existing "highest and best" standard to odors, or it intended to add an entire new control technology standard and program to the rules. We believe that LRAPA intended the former goal, i.e., to apply the "highest and best" rules to the odor context. However, LRAPA already has highest and best authority in 32-005, a regulation that specifically addresses odors. We believe it is not good regulatory policy to duplicate a rule in two places. Therefore, to the extent that LRAPA intended to extend that existing authority to odors, that authority already exists.

If instead, LRAPA intended to create an entirely new control technology requirement, we believe that the language chosen is misleading and there is an inadequate explanation of what this standard means. "Highest and best" is a well established standard that addresses how a source operates existing controls or emission reduction practices; a source does not install "highest and best," but rather a source must operate equipment at the level comporting with "highest and best." By stating in the proposed rules that "highest and best" must be "installed and operated," it appears that LRAPA is putting into place a new control technology standard. If so, this is a major piece of rulemaking that requires significantly more background and explanation than what is provided. As worded, it sounds like the requirement to install "Highest and Best"

Practicable Treatment requires some degree of control akin to LAER or MACT for odors, i.e., control without regard to cost. We hope this is not what was intended.

Again, we strongly urge you to reconsider this approach. 49-010 through 49-030 provides an appropriate structure to address appropriate measures for combating potential nuisances. Adding an entirely new element dramatically shifts the way in which these regulations work. We are concerned that if the proposed rule is intended to require something more than 32-005, then the standard being set is vague and undefined. We believe that this is not in anyone's best interest. For these reasons, we encourage LRAPA to delete 49-050 from the final rule package.

Thank you again for the opportunity to comment on the proposed rules. Please call if you have any questions regarding these comments.

Sincerely,

John Ledger
Associated Oregon Industries

cc: Tom Wood; Stoel Rives, LLP
Marv Lewallen, Weyerhaeuser Company

Approved___
Approved with Corrections___

Minutes are not final until approved by the Commission.

Oregon Environmental Quality Commission
Minutes of the Three Hundredth and Seventh Meeting

December 12-13, 2002
Regular Meeting[1]

The following Oregon Environmental Quality Commission (Commission, EQC) members were present for the regular meeting, held at the Oregon Department of Environmental Quality (DEQ) headquarters building, Room 3A, 811 S.W. Sixth Avenue, Portland, Oregon.

Melinda Eden, Chair
Tony Van Vliet, Vice Chair
Mark Reeve, Member
Deirdre Malarkey, Member

Also present were Stephanie Hallock, DEQ Director, Larry Knudsen, Oregon Department of Justice, members of DEQ's Executive Management Team, and other DEQ staff.

Thursday, December 12, 2002

Prior to the regular meeting, the Commission held an executive session at 10:00 a.m. as allowed by ORS 192.660(1)(i), to review and evaluate the employment-related performance of the Director pursuant to the standards, criteria and policy directives adopted by the Commission in January 2002.

Chair Eden called the regular meeting to order at approximately 1:00 p.m. Agenda items were taken in the following order.

A. Contested Case No. WPM/D-NWR-99-186 regarding Caleb Siaw, M.D.
The Commission considered a contested case between DEQ and Dr. Caleb Siaw, in which Dr. Siaw appealed a May 2002, proposed order assessing him a $317,700 civil penalty for violating an EQC order. The order required Dr. Siaw to design and construct a new on-site sewage disposal system for a mobile home park he owned in Seaside, Oregon. Larry Knudsen, Assistant Attorney General, summarized the findings of fact made by the Hearing Officer and asked Commissioners to declare any ex parte contacts or conflicts of interest regarding the case. All Commissioners declared they had no ex parte contacts or conflicts of interest. Michael J. Kavanaugh presented arguments on behalf of Dr. Siaw, and Jeff Bachman, DEQ Environmental Law Specialist, presented arguments on behalf of the Department.

Commissioners discussed key issues in the case with Mr. Knudsen and the representatives of both parties. After deliberation, Commissioner Reeve moved that the Commission uphold the proposed order and civil penalty. Commissioner Malarkey seconded the motion and it passed with four "yes" votes. The Commission asked Mr. Knudsen to prepare an order for the Director's signature on the Commission's behalf.

[1] Staff reports and written material submitted at the meeting are made part of the record and available from DEQ, Office of the Director, 811 SW Sixth Avenue, Portland, Oregon 97204; phone: (503) 229-5990.

B. Director's Dialogue
Commissioners discussed current events and issues involving the Department and state with Director Hallock.

C. Action Item: Vote on new Commission Chair
Commissioner Van Vliet nominated Commissioner Reeve to replace Commissioner Eden as Chair of the EQC effective January 1, 2003, and moved that the Commission vote on the nomination. Commissioner Malarkey seconded the motion and it passed with four "yes" votes. Commissioners expressed appreciation for Chair Eden's leadership over the past three years. Chair Eden was appointed and confirmed to the Northwest Power Planning Council in November 2002, for a term beginning January 1, 2003.

Joint meeting session with the Oregon Economic and Community Development Commission
At approximately 3:00 p.m., the EQC joined the Oregon Economic and Community Development Commission (OECDC) for a joint meeting session at the World Trade Center, Sky Bridge A&B, located at S.W. Second and Salmon Street in Portland.

EQC Chair Melinda Eden, OECDC Chair Brett Wilcox, DEQ Director Stephanie Hallock and Oregon Economic and Community Development Department (OECDD) Acting Director Sherry Sheng gave opening remarks. Members of both Commissions introduced themselves.

The first discussion topic focused on the need to maximize financial support to communities in need of wastewater treatment system improvements. Mike Llewelyn, DEQ Water Quality Division Administrator, and Mike Burton, OECDD Assistant Director, led Commissioners in discussing policy issues and strategies for agency collaboration to meet local wastewater system needs.

The second discussion topic focused on strategies for removing barriers to economic development in Oregon. DEQ Director Hallock described a number of agency initiatives designed to make it easier for companies to do business with DEQ, and reported on her work with other state leaders to support business development. Lynn Beaton, OECDD Regulatory Advisor, described a growing statewide interest in streamlining government regulations, and presented potential short and long term streamlining measures for OECDD and other agencies. Commissioners discussed regulatory streamlining initiatives with Director Hallock and Ms. Beaton, and gave suggestions for greater collaboration between OECDD and DEQ. Director Hallock and Acting Director Sheng thanked Commissioners for their interest in and support of their agencies' work.

OECDC Chair Wilcox adjourned the meeting at approximately 5:10 p.m. Immediately thereafter, Commissioners held a joint reception at the World Trade Center to continue informal discussion of issues that involve both DEQ and OECDD.

Friday, December 13, 2002

At 8:00 a.m., the Commission held an executive session to consult with counsel concerning legal rights and duties with regard to litigation against the Department. Executive session was held pursuant to ORS 192.660(1)(h).

Chair Eden called the regular meeting to order at approximately 9:30 a.m., and announced that Commissioner Reeve would be absent from the meeting for a short time later that morning. Agenda items were taken in the following order.

E. Action Item: Consideration of Pollution Control Facility Tax Credit Requests
Holly Schroeder, Acting DEQ Management Services Division Administrator, gave an overview of Pollution Control Facility Tax Credit requests, and introduced Maggie Vandehey, DEQ Tax Credit coordinator, to

present applications to the Commission. Ms. Vandehey recommended the Commission approve or transfer a number of tax credit requests for technology and process investments that reduce environmental pollution. The Commission discussed the applications with Ms. Schroeder and Ms. Vandehey.

Commissioner Van Vliet expressed a conflict of interest with regard to nine applications recommended for approval: Application #5923 from Hewlett-Packard Company, Application #6135 from Intel Corporation, and Applications #6161-6167 from Safeway, Inc. Commissioner Reeve moved that the Commission approve these nine applications as recommended in the Department's staff report. Commissioner Malarkey seconded the motion and it passed with three "yes" votes. Commissioner Van Vliet did not discuss the merits of or vote on these applications.

Commissioner Reeve left the meeting at approximately 9:35 a.m.

Commissioners continued discussion of the tax credit applications that had not yet been acted upon. Commissioner Van Vliet moved that the Commission approve the remaining applications as recommended by the Department. Commissioner Malarkey seconded the motion and it passed with three "yes" votes. Commissioner Van Vliet moved that the Commission transfer Applications #4240 and 4350 as recommended by the Department. Commissioner Malarkey seconded the motion and it passed with three "yes" votes.

D. Approval of Minutes

Commissioner Van Vliet moved that the Commission approve draft minutes of the October 3-4, 2002, EQC meeting. Commissioner Malarkey seconded the motion and it passed with three "yes" votes.

F. Informational Item: Update on Status of Umatilla Chemical Agent Disposal Facility

Sue Oliver, Acting DEQ Chemical Demilitarization Program Administrator, gave an update on recent events involving the Umatilla Chemical Agent Disposal Facility, including the progress of trail burns, the development of a facility permit modification, and plans for facility operation.

Commissioner Reeve rejoined the meeting at approximately 10:30 a.m.

G. Public Comment Opportunity on Port Westward Energy Facilities Project and Proposed Wastewater Discharge Permit

Chair Eden asked Bob Baumgartner, DEQ Northwest Region Water Quality Permit Manager, to describe the Port Westward Energy Facilities Project and DEQ's development of a wastewater discharge permit for the facilities. Mr. Baumgartner explained that the Port Westward project would include construction of two natural gas fired power plants and one ethanol production plant on land owned by the Port of St. Helens alongside the Columbia River near Clatskanie. In early 2002, the Port applied to DEQ for a wastewater permit to collect and discharge treated wastewater to the Columbia River from the new facilities. Mr. Baumgartner stated that DEQ planned ask the Commission make a determination about the impact of the project on Columbia River water quality in January 2003.

Chair Eden invited members of the audience to provide comments on the wastewater discharge permit and the Port Westward Energy Facilities Project. Paul Langner, representing the Port of St. Helens, testified in favor of the permit and the project, which was expected to create new job opportunities and to assist community development. Chair Eden thanked him for his comments.

L. Informational Item: Response to Commission Request for Analysis of Mercury Reduction Goals and Mixing Zones

Director Hallock introduced Department reports on mercury reduction goals and the discharge of toxics chemicals to water quality mixing zones, in response to a July 2002 Commission request for the information. Director Hallock preceded the Department reports by explaining DEQ's continued priority on reducing toxics in Oregon's environment, even in the context of current state budget limitations and significant agency resource constraints. Director Hallock introduced Dick Pedersen, DEQ Land Quality

Division Administrator, and Mike Llewelyn, DEQ Water Quality Division Administrator, to give the presentations.

Mr. Pedersen and Keith Johnson, DEQ Cross-Program Coordination Manager, presented an analysis of workload requirements and the scientific, technological, policy and economic constraints that would be associated with establishing specific mercury reduction goals as a matter of state policy. Mr. Johnson presented DEQ's "Mercury Reduction Strategy," which was prepared for the Commission in November 2002 to summarize what is presently known about mercury releases in Oregon and to highlight policy considerations associated with mercury reduction efforts. Commissioners discussed this work with Mr. Pedersen and Mr. Johnson, and thanked them for their presentation.

Mr. Llewelyn presented information on DEQ's policy governing the release of toxics in "mixing zones," which are defined segments of a waterbody downstream from a discharge outfall where a water quality standard may be violated as the discharged water mixes with surrounding waters. Mr. Llewelyn described the workload requirements and technical and economic constraints that would be associated with eliminating mixing zones for certain toxic chemicals. Commissioners discussed the mixing zone policy and agency work to evaluate toxics in mixing zones, and thanked Mr. Llewelyn for his presentation.

Public Forum
At approximately 11:30 a.m., the Commission invited comments from members of the audience on environmental issues. John Crawford, representing Foss Maritime Company, asked to comment on DEQ's proposed Oil Spill Contingency Planning rules, which were scheduled for Commission consideration later that day. Larry Knudsen, Assistant Attorney General, explained on behalf of the Commission that in accordance with ORS 183.335(13), no comments may be presented on the rules because the official public comment period had closed. Chair Eden asked the Department to provide Mr. Crawford a copy of all written comments received on the rule during the public comment period.

Brenda Keith, a Portland resident, expressed concerns about the health of former View-Master employees that had been exposed to trichloroethylene (TCE) while working at the site prior to 1980. Ms. Keith referenced DEQ's recently proposed cleanup plan for the site, as well as the Oregon Department of Human Services health study that would evaluate past TCE exposures from the plant's well. Chair Eden thanked Ms. Keith for her comments and asked the Department to contact her about her concerns. Director Hallock stated that the Department would report back to the Commission on work at the former View-Master site at the next meeting.

L. Informational Item: Response to Commission Request for Analysis of Mercury Reduction Goals and Mixing Zones (continued)
In continuation of this item, Chair Eden asked Lauri Weiss, Oregon Environmental Council (OEC) Program Director, to provide comments on DEQ's mercury reduction strategy, as Ms. Weiss had requested during the public forum. Ms. Weiss commented on key findings in DEQ's strategy and discussed potential concepts OEC considered bringing to the 2003 legislature for mercury reduction. Commissioners thanked Ms. Weiss for her comments.

In concluding their discussion, Commissioner Reeve asked Mr. Pedersen to report back to the Commission in the fall of 2003 on the Department's progress in reducing the release of toxics to the environment. Mr. Pedersen agreed to do so.

At approximately 12:30 p.m., Commissioner Van Vliet left the meeting to attend a meeting with Director Hallock on DEQ's proposed 2003-2005 budget. Director Hallock asked Paul Slyman, DEQ Deputy Director, to act as Director in the EQC meeting in her absence.

H. *Rule Adoption: Total Maximum Daily Loads (TMDL) Rules
Mike Llewelyn, DEQ Water Quality Division Administrator, proposed rules to adopt the process DEQ has been using to develop and implement Total Maximum Daily Loads, or TMDLs. Greg Aldrich, DEQ TMDL Coordinator, and Loretta Pickerell, Water Quality Rules Coordinator, joined Mr. Llewelyn in the presentation. Mr. Llewelyn explained that since the early 1980's, DEQ has been working to establish TMDLs for

waterbodies that do not meet water quality standards. Commissioners discussed the TMDL program and proposed rules with Mr. Llewelyn. Commissioner Malarkey moved that that Commission adopt the proposed rules to establish DEQ's TMDL procedures and processes in rule. Commissioner Reeve seconded the motion and it passed with three "yes" votes.

I. *Rule Adoption: Oil Spill Contingency Planning and Fees

Dick Pedersen, DEQ Land Quality Division Administrator, proposed rules to implement changes made by the 2001 Legislature to planning requirements for large ships and other marine vessels for responding to oil spills. Mr. Pedersen explained that the rules included new fees for regulated vessels and facilities to support DEQ's Emergency Response program. Mr. Pedersen introduced Mike Zollitsch, DEQ Emergency Response Program Manager, to describe the rules and answer questions from Commissioners. After discussion with Mr. Pedersen and Mr. Zollitsch, Commissioner Reeve moved the Commission adopt the proposed rules and repeal the old rules that new rules would replace. Commissioner Malarkey seconded the motion and it passed with three "yes" votes.

J. *Rule Adoption: Enforcement Procedures and Civil Penalties for Ballast Water Management, Oil Spill Planning, and Emergency Response to Hazardous Material Spills

Dick Pedersen, DEQ Land Quality Division Administrator, proposed rules to align state enforcement procedures and penalties with recent rule changes in DEQ's Emergency Response program. He explained that the rules included revised enforcement classifications for ballast water management and planning requirements for oil and hazardous material spills. After a brief discussion, Commissioner Malarkey moved that the Commission adopt the proposed rules as recommended by the Department. Commissioner Reeve seconded the motion and it passed with three "yes" votes.

K. Temporary Rule Adoption: Asbestos Requirements

Andy Ginsburg, DEQ Air Quality Division Administrator, proposed a temporary rule to provide businesses with immediate relief from asbestos requirements that proved problematic after they were put in place in early 2002. Audrey O'Brien, Northwest Region Air Quality Manager, and Dave Wall, Northwest Region Asbestos Control staff, joined Mr. Ginsburg in the presentation. Mr. Ginsburg explained that DEQ's rules were designed to prevent public exposure to asbestos, which is a hazardous air pollutant and known carcinogen. The proposed temporary rule would assist rule implementation immediately, and provide time for the Department to work with stakeholders on permanent asbestos requirements. Commissioners discussed the asbestos rules with Mr. Ginsburg, Ms. O'Brien and Mr. Wall. Commissioner Reeve moved that the Commission adopt the proposed temporary rule as recommended. Commissioner Malarkey seconded the motion and it passed with three "yes" votes. Chair Eden asked Director Hallock to sign the Statement of Need and Justification for the temporary rule on the Commission's behalf.

M. Commissioners' Reports

Commissioner Malarkey described her participation in a recent Household Hazardous Waste Collection event in Lane County. She reported that nearly 10,000 pounds of hazardous waste was collected during the event.

Chair Eden expressed her appreciation to her fellow Commissioners and DEQ staff for the opportunity to work together during her membership on the Commission. This was Chair Eden's last in-person meeting as a Commission member.

Chair Eden adjourned the meeting at approximately 3:30 p.m.

Approved___
Approved with Corrections___

Minutes are not final until approved by the Commission.

Oregon Environmental Quality Commission
Minutes of the Three Hundredth and Eighth Meeting

December 30, 2002
Special Phone Meeting[1]

The following Oregon Environmental Quality Commission (Commission, EQC) members were present for a special phone meeting, held at the Oregon Department of Environmental Quality (DEQ) headquarters building, Room 10A, 811 S.W. Sixth Avenue, Portland, Oregon.

Melinda Eden, Chair
Mark Reeve, Member
Harvey Bennett, Member

Also present were Paul Slyman, DEQ Deputy Director Acting for Director Stephanie Hallock, Larry Knudsen, Oregon Department of Justice, and DEQ staff.

Chair Eden called the meeting to order at approximately 1:00 p.m.

A. Action Item: Consideration of Pollution Control Facility Tax Credit Requests
Holly Schroeder, Acting DEQ Management Services Division Administrator, gave an overview of Pollution Control Facility Tax Credit requests, and introduced Maggie Vandehey, DEQ Tax Credit coordinator, to present applications to the Commission. Ms. Vandehey recommended the Commission approve nine tax credit applications as presented in the staff report. Commissioners discussed the applications with Ms. Schroeder and Ms. Vandehey. Commissioner Reeve moved that the Commission approve the tax credit applications as recommended. Commissioner Bennett seconded the motion and it passed with three "yes" votes.

Ms. Schroeder stated that in October 2002, the Commission requested a periodic report of all wood chippers certified by the Department. Ms. Schroeder then presented a wood chipper certification list for the period of November 1, 2002, through December 20, 2002, as requested. Commissioners thanked Ms. Schroeder and Ms. Vandehey for the report.

Chair Eden adjourned the meeting at approximately 1:30 p.m.

[1] Staff reports and written material submitted at the meeting are made part of the record and available from DEQ, Office of the Director, 811 SW Sixth Avenue, Portland, Oregon 97204; phone: (503) 229-5990.

Oregon

ENVIRONMENTAL
QUALITY
COMMISSION

The Environmental Quality Commission hereby awards 40 hours of administrative leave to Stephanie Hallock, DEQ Director, for the significant amount of uncompensated hours she worked during the 2001 Legislative Session. Director Hallock made it her priority to personally represent the agency throughout the duration of the long 2001 session, working overtime with legislators, Governor's staff and stakeholders. At the same time, she continued full oversight of the agency's daily operations, without the assistance of a dedicated Deputy Director. Director Hallock's unfailing dedication, commitment and tireless attention to the needs of Oregon's environment proved invaluable during the session and served the agency extremely well.

In completing the Commission's appraisal of Director Hallock's performance, we are pleased to award this administrative leave in appreciation of her demonstrated and ongoing commitment to the state.

Mark Reeve, EQC Chair
on behalf of the Commission

1/30/03
Date

The Commission awards this leave pursuant to State Policy 60.000.10, Special Leaves with Pay.

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696

Summary Report of the Performance Evaluation of the Director of the Department of Environmental Quality January 2003

I. Background

When the new Director, Stephanie Hallock, assumed office, the Environmental Quality Commission appointed a subcommittee to start a formal procedure that would serve as a model for director evaluation every two years. The Commission in January 2002 adopted the standards, criteria, and policy directives for this evaluation. The subcommittee then worked on the "how" by fine tuning examples of other agency procedures that fit out needs.

In September, the Commission solicited input and sent surveys to government officials, stakeholders, DEQ managers and the DEQ Executive Management Team. All surveys were to be confidential but could be signed if the writer wished.

II. The Process

The actual stepwise process followed by the Commission is attached as Appendix A. The forms used in measuring and evaluating performance are attached in Appendix B. Slight changes in the forms were made to be relevant to each surveyed group. Of the three major groups of evaluators, we received thirty-two responses from Group 1—outside government officials and stakeholder or user groups. Sixteen were received from Group 2—DEQ managers and nine from Group 3—DEQ Executive Management team.

Each performance measure could be weighted and ranked from a high of "5" for outstanding to a low of "1" for unsatisfactory. Space for written comments was provided.

III. The Evaluation

The Commission was very pleased with the responses about the Director's performance. All three groups had each evaluated the Director above a 4(Exceeding Expectations) in their overall averaging. Out of fifty-seven responses there was only a single 3.00(Meets Expectations).

The Commission looked closely at the written comments, as they often portray a more complete vision of a manager than do numerical averages. Some of the repeated comments emphasized Director Hallock's keen sense of the agency mission and her ability to communicate that vision to a wide variety of groups.

Many responders commented on her seasoned understanding of how the agency functions and how highly sensitive is the nature of working with widely diverse groups.

She is appreciated for her straightforward and open approach in working with others. Some comments alluded to her rapid decision making that can be interpreted as both a positive or negative quality, depending on the situation.

The Commission had hoped for a larger response from the DEQ Managers, and we suggest a larger effort should be made next time to engage this group. This response should be tempered by the fact that in large organizations knowing

the leader is more difficult as one proceeds further down the organizational structure.

The Commission met in an executive session on December 12, 2002, to discuss responses and to share and discuss the Commissioners' own observations and comments on the Director's performance. Commissioners' comments were similar to those expressed by surveys.

IV. Conclusion

The Commission giver Director Hallock high marks in this first evaluation of her professional service.

This is a difficult agency to manage in an atmosphere of constant change and demands from a wide variety of clientele. It is an agency which is trying to be helpful to those it regulates without losing sight of the fact that its major mission is protecting the environment for the people of the State of Oregon. That is not an easy task when faced with Federal rules, uncertain state funding, and differing special interest groups.

Director Hallock has made a considerable impact in handling these relationships outside the agency while developing a strong pattern of leadership among a very good DEQ staff.

We do raise a serious concern that key state agency administrators are expected to be outstanding "external" managers as well as exceptional "internal" administrators, which in turn could lead to early "burnout" and the loss of valuable experience. Dwindling state support may complicate this situation and decrease the number of required administrators needed to carry out agency missions.

The Environmental Quality Commission respectfully submits this report to the Governor's office and the Legislature as meeting its obligation to evaluate the Director of DEQ.

Signed,

Mark Reeve, Chair

Tony Van Vliet, Vice Chair

Tony Van Vliet

Deirdre Malarkey, Commissioner

Deirdre Malarkey

Harvey Bennett, Commissioner

Harvey O. Bennett

Appendix A. The Purpose and Process Statement

Appendix B. Performance Measures and Evaluation Form

Appendix A. The Purpose and Process Statement

I. Purpose

The Environmental Quality Commission (Commission) is responsible under ORS 468.045 for directing the performance of the Director of the Department of Environmental Quality (DEQ). The Commission exercises part of its responsibility by performing a performance evaluation of the Director. Such evaluation is intended to increase and improve communications both within the Department and the broad spectrum of outside agencies, governments, and private parties with whom the Director interacts. The evaluation further allows the Commission to review goals, establish criteria, provide commendations, and broadly recognize the work of the Director.

II. Process

1. The Commission shall evaluate the performance of the DEQ Director on at least a biennial basis. Normally, the process will require an eight-week period.
2. The Commission may solicit and review information concerning the performance of the Director from any source.
3. Immediately before an evaluation, the Commission shall:
   a. Appoint a subcommittee of the Commission to prepare for and schedule the evaluation.
   b. Review and adopt criteria for the evaluation.
4. In keeping with the Commission-adopted criteria, the Director shall provide the Commission with a written self-evaluation.
5. The Commission shall review the Director's self-evaluation in Executive Session, absent the Director.
6. The Commission shall follow the review of the Director's self-evaluation with an Executive Session with the Director.
7. The Commission shall accept and compile all input from appropriate sources and provide due consideration within the overall performance review process.
8. The Commissioners shall then complete their own individual evaluations of the Director using adopted criteria.
9. The Commissioners' evaluations shall be submitted to the Commission Chair for compilation. Evaluations and compilations shall be kept confidential to the extent allowed under Oregon law.
10. Based upon all input and the individual evaluations and their compilations, an executive session will be held with the Director to review results.
11. The evaluation will become a basis for all aspects of employment.
12. The Commission will prepare a public release of the performance evaluation in summary form. Before such release, the Commission Chair will review such document with the Director.

III. Performance Measures and Evaluation Form

Commissioner Name_____

Performance Period: _____

Mid-Rating Period: _____

Performance Measures	Performance Ratings (Circle one number)
1. POLICY AND DIRECTIVES Director will give clear direction to staff to ensure implementation of Commission policy in a timely manner. Include evidence from DEQ activities, processes and actions underway or completed during the past review period. Director ensures, through subordinates, that staff field decisions are based on existing statutes, goals, executive orders, Commission rules and Department policies. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight[1] _____%
2. SERVICES AND RELATIONS Director ensures effective services to and relations with the Commission. Upon confirmation, all new Commissioners receive up-to-date Department goals and applicable enabling, operational and regulatory statutes and rules; a handbook including Commission and staff names, mailing, fax and email addresses, telephone numbers; and business cards. Per diem/mileage forms will be provided at each meeting to be submitted together for payment. Any required tax information will be provided on a timely basis. Commission/staff disagreements will be openly discussed with resolution/outcome reflected in meeting minutes. Meeting materials will be provided to all Commission members for review in a timely manner. Any written communication to the Commission from work groups and/or advisory committees will be included in agenda packets. Clerical and other necessary support services will be available. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%

[1] Assign a weight between 0 and 100 percent to each of the ten Performance Measures so that the combined total of all ten weights is 100 percent.

3. COMMUNICATION Clearly and effectively communicates issues, ideas, resources and/or information in a timely manner. Emphasis will be placed on collaborative processes and high-quality, informative materials including applicable analyses, documents, surveys and reports to facilitate a range of policy implications for discussion. The Commission will be kept informed so as not to be surprised by significant issues. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
4. INTER/INTRA GOVERMENTAL RELATIONSHIPS Effectively represents the agency and the State within the state, federal and local government organizational structures. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
5. IMPLEMENTATION OF STRATEGIC PLAN Progress toward accomplishing priorities, objectives and strategies as approved by Commission. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
6. PROBLEM SOLVING Identifies challenges, opportunities and problems clearly and aids DEQ in the analysis of possible actions or responses as necessary. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%

7. RECRUITMENT/RETENTION/DIVERSITY Appoint(s), re-appoints, assigns and reassigns as necessary all subordinate offices and employees of the department, clearly prescribes their duties and fixes their compensation, subject to State Personnel Relations Law ORS 179.090. Department personnel are to be highly qualified and responsive to DEQ's entire customer base, including EQC. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
8. DECISION-MAKING Director's decisions and actions reflect a high level of understanding of Oregon state government and the political environment in which the agency must function. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
9. COMMISSION EFFECTIVENESS In order to assist the Commission in being as effective as possible, the Director will provide information monthly that is relevant to DEQ issues. Such information may include explanation of the State's interest when amending and adopting goals, rules, policies and/or guidelines. The Director also will communicate opportunities within State government for training and educational experiences to enhance high-quality board service. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%
10. RESULTS Responses and actions are productive; results are appropriate and positive, timely, consistent, and of high quality. COMMENTS	Outstanding 5 Exceeds expectations 4 Fully meets expectations 3 Needs improvement 2 Unsatisfactory 1 Not Rated N Weight _____%

11. OVERALL PERFORMANCE

Multiply the number circled in each section by the weight given[2] and add the totals from each of the 10 measures to find the overall rating.

COMMENTS

Date of Approval: _____

Melinda S. Eden, Chair
Environmental Quality Commission

Overall Rating _____

Outstanding	5
Exceeds expectations	4
Fully meets expectations	3
Needs improvement	2
Unsatisfactory	1

[2] Example: If "Fully meets expectations" was given a 20% rating for one performance measure, multiply 3 by 0.20 to get a 0.80 rating for that measure. Add ratings from each of the 10 measure to get the overall rating.

Definitions

Performance Ratings:

Outstanding	Performance at this level far surpasses expected performance and is among the top 10% of state agency managers
Exceeds Expectation	Performance at this level meets expectations and in some cases exceeds expectations
Fully Meets Expectations	Performance at this level meets expectations
Improvement Needed	Performance at this level is partially met but requires some improvement
Unsatisfactory	Performance at this level is unacceptable and requires a development plan

Skills Listing:

Leadership
- Establishes a high-performance climate by using techniques of coaching, leadership and mentoring.
- Increases a group's energy and creative potential.
- Maintains group cohesiveness and cooperation.
- Demonstrates working knowledge of staffing, compensation, performance management and employee relations processes.
- Demonstrates high ethical standards and fiscal accountability in managing public resources.

Strategic Thinking
- Recognizes the environmental context in which the organization operates.
- Understands current and future problems and challenges faced by the organization.
- Demonstrates ability to apply strategic objectives to departmental operations.

Communications
- Speaks clearly and expresses self well in groups and in conversations with individuals.
- Demonstrates strong listening and writing skills, including grammar, organization and structure.
- Shares appropriate information on a timely basis.

Teamwork
- Works cooperatively.
- Contributes to the team by supporting and encouraging team members.
- Supports consensus decision-making by the team.

Customer or Constituent Service/Focus
- Identifies customers.
- Anticipates and understands customer needs.
- Acts to meet customer needs.
- Continues to search for ways to increase customer satisfaction.

Personal Responsibility/Accountability
- Inspires self and others to set and maintain high standards of excellence.
- Works with high energy, focus and persistence.

Definitions

(Groupings by performance/goal results and supporting skills/behavioral traits.)

1. Outstanding

Performance/Goal Results

- Significantly exceeds goals.
- Always produces more than required.
- Project plans and actions serve as a model for effective staff and resource activities.
- Provides exceptional presentations that inform and educate.
- Resolves controversial and complex decisions.
- Implements creative solutions to long-standing or especially troublesome problems.

Supporting Skills

- Serves as a model for working productively.
- Always performs special assignments and projects or unanticipated activities and completes them ahead of deadlines.
- Works with an unusually high degree of energy, focus and persistence.
- Produces work at the highest level of accuracy.
- Works independently with broad direction and little, or no, follow-up.
- Develops highest quality products or services.
- Gives life to the agency.
- Motivates employees to exceed departmental goals while focusing on organization wide issues.
- Frequently helps others within DEQ, even when it is "not in the job description."
- Can always be relied upon to serve as the source of accurate information.
- Serves as a leader in team discussions, yet does not monopolize team discussions.
- Contributes constructive ideas and suggestions that have major impact.
- Significantly improves work area by leading collaboration and cooperation.
- Always assists coworkers in completing assignments, with the only goal of improving organization effectiveness.
- Displays exceptional skill at organizing and responding to complex project issues.
- Serves as a model for outstanding customer service.
- Is highly respected by peers and colleagues

2. Exceeds Expectations

Performance/Goal Results

- ❑ Often exceeds goals.
- ❑ Frequently produces more than required
- ❑ Handles controversial or complex decisions.

Supporting Skills

- ❑ Self-motivated and sets high productivity levels.
- ❑ Anticipates developments or delays and makes adjustments.
- ❑ Goes the extra mile to ensure that goals and objectives are met.
- ❑ Serves as a facilitator in ensuring clear and effective communication among involved parties.
- ❑ Meets targets, timetables and deadlines, and is often prepared ahead of schedule.
- ❑ Frequently handles difficult pressure situations and distractions.
- ❑ Motivates employees to exceed departmental goals and objectives.
- ❑ Can always be counted on to add something new or innovative to each project.
- ❑ Exhibits excellent oral and written communication to all levels of staff.
- ❑ Frequently performs special assignments and projects or unanticipated activities and appears to be positively challenged by them.
- ❑ Puts success of team above own interests.
- ❑ Takes great initiative to ensure that customer needs are exceeded.
- ❑ Serves as the ideal standard for collaboration and cooperation.
- ❑ Consistently analyzes all problems and crafts workable, creative solutions.
- ❑ Views problems as an opportunity to use new technology or implement better methods.

3. Fully Meets Expectations

Performance/Goal Results

- ❑ Meets all goals.
- ❑ Completes all regularly assigned duties.
- ❑ Performs all assignments regardless of distractions or pressure situations.
- ❑ Completes work with acceptable level of accuracy and professionalism.
- ❑ Is prompt and prepared for meetings and other scheduled events.
- ❑ Responds quickly and appropriately to unanticipated delays or developments.

Supporting Skills

- ❑ Recognizes and analyzes complex problems and takes action or recommends effective, creative solutions.
- ❑ Adjusts priorities as needed.
- ❑ Provides follow-up directives and continually communicates a shared vision.
- ❑ Recognizes, responds, and supports employees with changing conditions.
- ❑ Assists other management in communicating difficult issues.
- ❑ Develops project plans that are creative and innovative and makes good use of staff and organization resources.
- ❑ Actively participates in group discussions.
- ❑ Contributes constructive activities and suggestions that are implemented.
- ❑ Frequently helps others achieve their goals through support and/or assistance.
- ❑ Recognizes and analyzes problems and takes appropriate action.
- ❑ Researches and efficiently prepares products and activities at acceptable standards.
- ❑ Handles routine pressure situations and distractions of the job while maintaining normal workload.
- ❑ Demonstrates reliable and predictable attendance and/or punctuality.
- ❑ Rarely is gone due to unscheduled absences.
- ❑ Meets targets, timetables and deadlines.
- ❑ Works quickly and strives to increase productivity.
- ❑ Is prompt and prepared for meetings and other scheduled events.
- ❑ Responds to routine developments appropriately.
- ❑ Motivates employees to meet departmental goals and objectives.
- ❑ Provides direction to employees by clearly communicating a shared vision.
- ❑ Is flexible when dealing with changing conditions.
- ❑ Helps the team accomplish its goals.
- ❑ Assesses individuals' strengths and weaknesses and suggests methods for improvement.
- ❑ Proactively changes and communicates progress to all.
- ❑ Successfully manages project team activities.
- ❑ Follows policies, procedures and regulations.
- ❑ Ensures customer satisfaction through consistent or special effort in response to customer need.
- ❑ Provides requested assistance and information to others in a prompt and courteous manner.
- ❑ Works to enable understanding and obtains clarification when needed.

(continued)

- ❑ Responds appropriately to questions.
- ❑ Demonstrates good presentation skills.
- ❑ Participates in team discussions.
- ❑ Performs special assignments and projects or unanticipated activities.
- ❑ Contributes ideas and suggestions.
- ❑ Volunteers to serve for special projects
- ❑ Takes initiative to understand new or more complex equipment, software or changes in operational procedures.
- ❑ Exhibits positive attitudes, especially during times of change and disruption.
- ❑ Recognizes and provides support and/or assistance to coworkers.
- ❑ Works actively to resolve conflicts.
- ❑ Demonstrates strong problem solving skills to ensure smooth operations.
- ❑ Consistently analyzes problems and applies logical solutions.
- ❑ Makes effective decisions on a timely basis.

4. Improvement Needed

Performance/Goal Results

- ❑ Assignments occasionally are not completed on time.

Supporting Skills

- ❑ Does not understand some basic functions or activities of the unit.
- ❑ Inconsistently organizes activities and information.
- ❑ Occasionally fails to make proficient use of technology.
- ❑ Inconsistently uses correct practices or procedures
- ❑ Is inconsistent in meeting targets, timetables or deadlines.
- ❑ Is inconsistent in promptness or preparation for meetings or other scheduled events.
- ❑ Some routine assignments and duties require supervisory guidance.
- ❑ Is inconsistent in completing assigned work.
- ❑ Recognizes problems, but requires some assistance to develop workable solutions.
- ❑ Occasionally unable to meet an acceptable standard of quality
- ❑ Is inconsistent in organization or maintaining operations.
- ❑ Occasionally communicates in an inappropriate manner.
- ❑ Occasionally and reluctantly performs special assignments and projects or unanticipated activities.
- ❑ Is inconsistent in making decisions on a timely basis.
- ❑ Is inconsistent in analysis of problems or application of logical solutions.
- ❑ Marginally courteous; may provide requested assistance and information to others in a less than prompt or courteous manner.

5. Unsatisfactory

Performance/Goal Results

- Assignments often not completed on time.

Supporting Skills

- Rarely performs special assignments and projects or unanticipated activities.
- Is often not at work due to unscheduled absences.
- Attendance and/or punctuality habits cause hardship for colleagues.
- Frequent errors.
- Low tolerance to pressure situations or distractions.
- Rarely motivates employees.
- Rarely available to staff.
- Rarely manages changing conditions.
- Project activities often need to be redone.
- Budget and staff time are not used in an effective manner.
- Rarely communicates.
- Rarely participates in team discussion.
- Rarely contributes ideas and suggestions.
- Reluctantly cooperates with others to achieve agency goals.
- Reluctantly accepts direction from supervisor.
- Minimally supports team leader.
- Rarely develops and maintains cooperative relationships with team or with others outside the work unit.
- Often the source of negative conflict.
- Unit and individual productivity is significantly disrupted by unreliable attendance and/or punctuality.
- Often does not meet requirements.
- Frequently does not meet targets, timetables or deadlines.
- Frequently lacks promptness or preparation for meeting or other scheduled events.
- Routine developments require supervision.
- Rarely recognizes problems or unable to recommend effective solutions.
- Frequent errors that have negative impact.
- Must be reminded about customer service standards.
- Rarely able to work under pressure situations or handle distractions.
- Rarely effective in organizing or maintain operations.
- Occasionally does not provide assistance and information to others in a prompt or courteous manner.

Debbie

State of Oregon
Department of Environmental Quality Memorandum

To: Environmental Quality Commission **Date:** January 30, 2003

From: Stephanie Hallock, Director

Subject: Director's Dialogue

DEQ Budget Cuts from Measure 28 and 2002 Special Sessions
As you know, Measure 28 did not pass. As a result, DEQ will cut another $895,798 from the current budget. These cuts take effect February 1, 2003, and are permanent, meaning they will carry over into the 2003-05 budget at $4.3 million and 22 FTE. Through vacancies and reassignments, we are able to accomplish these cuts without layoffs. The resulting work impacts, however, include: eliminating green permits and other pollution prevention initiatives, eliminating oversight of air emissions testing at permitted facilities, reduced water quality monitoring and wastewater permit inspections, delays in TMDL completion, eliminating water quality use attainability analysis, reduced identification of cleanup sites and delayed cleanups, a reduced Community Solutions Team staff, and reduced central services for DEQ's business operations.

This brings the total cuts to DEQ through all special sessions, including Measure 28, to $4.7 million and 30 FTE. For 2003-05, this equates to $6.6 million in cuts. Attachment A details the dollar and FTE cuts for DEQ programs for this biennium and for 2003-05. Attachment B provides a fact sheet on DEQ's current budget situation.

Governor's 2003-2005 Budget and DEQ's Priorities
On January 10, Governor-elect Kulongoski released his plan for spending Oregon's $11.5 billion budget for the 2003-2005 biennium. Attachment C provides a pie-chart distribution of the Governor's proposed General Fund/Lottery budget, two percent of which is allocated to natural resources. The Governor's budget for DEQ totals approximately $273.8 million, 12 percent of which is General Fund (73% is fee revenues, 14% is federal funds and 1% is lottery funds). DEQ's General Fund allocation is 23 percent smaller than what was approved by the 2001 Legislature because of cuts made during last year's special sessions and the failure of Measure 28.

The impact of these cuts will be noticeable, but will not impede our ability to focus on our high priority work. Our highest priorities in the Governor's Balanced Budget are to:

- Complete the Willamette River water quality improvement plan
- Support DAS certificates of participation for relocation of DEQ's environmental laboratory
- Maintain federal delegation of the Hazardous Waste program through an increase in hazardous waste fees
- Maintain excellent customer service in the vehicle inspection program with consistent quality testing and staffing
- Ratify air and water quality fee increases authorized by the 2001 Legislature

Attachment D provides a summary of DEQ's 2003 legislative priorities, which I am using in meetings with legislators and others in Salem. In March, we expect to begin hearings before the

Ways & Means Natural Resources Subcommittee. Based on direction from the Co-Chairs of the full Ways & Means Committee, our presentation will focus on why DEQ exists, how the agency has been performing, how we use our budget, and what outcomes can be expected from out budget request.

Governor's Recent Appointments

As you may know from recent media coverage, Governor Kulongoski has appointed a number of new cabinet members and staff. These include the following with whom we expect to have the most contact:

- Peter Bragdon, Governor's Chief of Staff
- Pat Egan, Governor's Legislative Director
- Jim Brown, Governor's Natural Resources Advisor
- David Van't Hof, Governor's Natural Resources Advisor focusing primarily on energy and water policy, responsible for working with DEQ, WRD, Dept of Energy, DOGAMI and DLCD
- Jim Myron, Governor's Natural Resources Advisor focusing primarily on fish and fishery policy, responsible for working with ODFW, Parks, ODF, ODA and OWEB
- Chris Warner, Governor's leader for the Community Solutions Office
- Gary Weeks, Director of the Department of Administrative Services
- Marty Brantley, Director of the Oregon Economic and Community Development Department
- Katy Coba, Director of the Oregon Department of Agriculture

I have worked or met recently with most of these people, and I look forward to developing my working relationship with them as the session progresses.

Oregon Requests Regulatory Relief for the State Salmon Plan

On January 10, Kitzhaber and Kulongoski sent a joint letter to Bob Lohn, Regional Administrator of NOAA Fisheries (formerly referred to as "NMFS"), asking NOAA Fisheries to start working with Oregon to develop a "4(d) Limit" to the Endangered Species Act based on the Oregon Plan for Salmon and Watersheds (see Attachment E). The rule would exempt anyone acting under an Oregon Plan-related permit, standard, plan or program from the "take prohibitions" for threatened salmonids used by NOAA Fisheries. A limit would greatly reduce the regulatory burden and/or legal liability that individuals, municipalities, land managers and others now face when doing work that has the potential to harm a listed fish species. Since DEQ's water quality efforts are a cornerstone of the Oregon Plan, an effort to develop a limit could lend significant weight to the argument for adequate support for TMDLs and other water quality programs. Securing a 4(d) Limit is a complex undertaking, however, which early estimates predict could take up to 15 senior specialists working two to five years to create a legally defensible record. There is no certainty at this point that NOAA Fisheries will initiate the effort, and they have yet to respond to Oregon's request.

Status of DEQ's 401 Review for Columbia River Channel Deepening

In conjunction with the Washington Department of Ecology and Oregon Department of Land Conservation and Development, DEQ conducted two public hearings on the dredging of the Columbia River federal navigation channel. The meetings, in Astoria and Portland, were attended by approximately 120 people each, and a total of 55 oral testimonies were offered. Additionally,

DEQ received 150 written comments. The 45-day comment period (longer than average) ended on January 15.

DEQ is now evaluating the comments and starting a technical analysis to determine whether the project can proceed and meet water quality standards. The Clean Water Act provides Oregon with a reasonable period of time, not to exceed one year, to conduct this review. We will not need a year to do this, but we will take the time we need to provide a technically rigorous, legally defensible and environmentally protective certification. Given the significant volume of public input received, we do not know at this point how long the review will take.

The EQC has no formal administrative role in the 401 certification for channel deepening. This function is reserved to the Director by statute. The EQC's only possible involvement would be in the case of an administrative appeal from the applicant. In this case, the EQC would have the option of holding, or ordering, a formal hearing to determine whether the Department's 401 certification or denial should be upheld. Alternatively, the EQC would be able to refer to the action to the Director for reconsideration. We will keep you informed of the progress of the Department's analysis and decision.

Wastewater Permit for CAFOs Delayed

DEQ and the Oregon Department of Agriculture (ODA) have delayed the adoption of a National Pollutant Discharge Elimination System (NPDES) general permit for confined animal feeding operations (CAFOs) because of revised EPA rules issued in December 2002. In October, the EQC approved an agreement to transfer the NPDES program from DEQ to ODA as directed by the 2001 Legislature. Thereafter, we moved forward on a joint rulemaking with ODA to develop a NPDES permit for CAFOs. We had hoped to propose EQC adoption of the permit rules at this January meeting. To ensure that the permit is consistent with federal rule revisions, however, DEQ and ODA proposed several changes to the rules and extended the public comment opportunity through mid-February. We now anticipate being ready to propose EQC adoption of the permit rules at either the upcoming March or May meeting.

Elementary Schools Prepare for Responding to Chemical Emergencies

In March, the 62 elementary schools in the Portland Public School District will begin practice drills for how to respond safely in the event of a chemical emergency. DEQ's Air Quality program began collaborating with Portland Public Schools on this project several years ago, and the September 2001 terrorist attacks brought heightened attention to the need for such planning. With funding from an EPA grant, we identified locations where all children and staff in Portland's 62 elementary schools would seek shelter during an emergency, and we purchased radios and cellular telephones to support internal and external communications. The project included meetings with sources of potential releases (i.e., industrial companies in the Portland area that handle volatile chemicals) to go over the process for contacting coordinators in the event of an emergency. In addition to Portland Public Schools, the Portland Fire Bureau, State Fire Marshall, EPA and local emergency planning groups have been kept informed of the project.

Compost Study Shows Clopyralid Residue

The Department recently completed a study of compost samples from DEQ-permitted composting facilities statewide to learn whether they contained residue of the broadleaf herbicide clopyralid. Thirty-three percent of the compost samples taken in Phase I and 100 percent of the samples taken

in Phase II of the study showed clopyralid residue. The study was spurred by similar problems and subsequent policy-making in Washington and California. Although the exact level of clopyralid residue that is harmful to plants is not known, the study results indicate that the amount of residue that has entered Oregon's wastestream could be harmful to sensitive plants, including tomatoes, beans, and peas. Clopyralid is a broadleaf herbicide manufactured by Dow AgroSciences and used as an active ingredient in lawn and agriculture products that target clover, thistle and dandelion. Potential sources of clopyralid-tainted organic waste include grass treated by professional lawn care providers and animal bedding and manure.

Because of concern about the potential impact of clopyralid on organics recycling and the public's confidence in compost, DEQ formed a task force to study the issue. Task force members included the Oregon Department of Agriculture (ODA), who regulates the sale, use and distribution of pesticide products, as well as Metro and representatives of the Compost Council of Oregon. ODA is now developing options for potentially regulating clopyralid, which will be reviewed by the task force. DEQ is also working with composters and local governments on operational and educational actions. This is just starting to become national issue, and although EPA is aware of it, they have not indicated they will take any action yet.

Revision of DEQ's IMAP Implementation Plan

As you know, last year's Information Management Assessment Project (IMAP) provided recommendations for how we could make the best use of our information management resources and improve DEQ's operations and customer service. New budget forecasts, however, caused us to modify the implementation plan.

Though some projects will be delayed or scaled back, the plan outlines a number of short-term objectives to be achieved by the end of the 2003 legislative session. These include:

- Forming the Information Management Advisory Council to lead the development of tools supporting agency-wide information management, overcome cross program barriers, and work with the EMT on improvements.
- Determining the right scope and feasibility of a DEQ Information Center.
- Producing an agency-wide Information Management Plan to guide allocation of resources at the beginning of the 2003-2005 budget cycle. The plan will likely include a complete revision of our billing process, as well as several other priority system upgrades that need to be made.

Helen Lottridge has resumed her role as Management Services Division Administrator and will continue to oversee implementation of IMAP. Holly Schroeder, who served as acting MSD Administrator during the IMAP study, will continue to report to me on budget, tax credits, regulatory streamlining, lab relocation and other issues during the legislative session.

Update on Health Study and Clean Up of Former View-Master Site in Beaverton

In December, I reported that DEQ had proposed a cleanup settlement with owners of the former View-Master manufacturing site in Beaverton. Trichloroethylene (TCE) and other hazardous substances were released at this site when the plant was owned and operated by GAF Corporation (now G-I Holdings Inc.) prior to 1980. DEQ's proposed $3.46 million settlement for cleaning up the site's groundwater contamination raised concerns from former GAF employees and their relatives because it did not include health assessment work.

The Oregon Department of Human Services (ODHS) is in the lead on a health study of former employees to evaluate past TCE exposures from drinking water in the plant's well. Earlier this month, ODHS released their draft report for public comment, and a public information session was held on January 28. Preliminary findings of their study suggest an increased incidence of certain cancer mortality in former plant employees as compared to the general public. Michael Heumann, Manager for the Environmental and Occupational Epidemiology Program at ODHS, is here to discuss the preliminary findings and recommendations of the study for follow-up health assessment activities. The Commission expressed interest in hearing an update on this situation after the December meeting.

Attachment A

Summary of General Fund Reductions from 2002 Special Legislative Sessi

Impacts on 2001-03 and 2003-05 budgets

	2001-03		2003-05	
	$$	FTE	$$	FTE
Special Sessions 1-4				
Air Quality	974,000	4.16	892,043	4.16
Water Quality	865,742	4	824,240	4
Land Quality	536,016	0.55	328,191	0.55
Cross Media	7,681	...	7,681	...
Debt Service	579,000	...	...	...
Subtotal	2,962,439	8.71	2,052,155	8.71
	$$	FTE	$$	FTE
Special Session 5 (immediate)				
Debt Service	437,227	...		...
	$$	FTE	$$	FTE
Governor's December Across the Board				
Air Quality	50,676	...	...	...
Water Quality	206,354	...	...	...
Land Quality	18,841	...	...	...
Cross Media	10,309	...	...	...
Agency Management	2,887	...	...	...
Debt Service	166,093		...	...
Subtotal	455,160		...	...
	$$	FTE	$$	FTE
Special Session 5 (effective upon failure of Measure 28)				
Air Quality	157,043	3.91	818,808	3.91
Water Quality	639,477	16.25	3,365,104	16.25
Land Quality	58,386	1.34	303,850	1.34
Cross Media	31,947	...	14,298	...
Debt Service	...	...	...	...
Agency Management	8945	...	47,753	...
Subtotal	895,798	21.5	4,549,813	21.5
TOTAL General Fund Cuts	**$4,750,624**	**30.21**	**$6,601,968**	**30.21**

as of 1-30-03

Fact Sheet

DEQ Budget Overview

Budget Cuts during 2001-03

To date, DEQ's share of permanent cuts made by the Governor and the Legislature to balance the 2001-03 budget totals $3,281,375 in General Funds. General Fund is 16% of DEQ's 2001-03 operating budget. These cuts represent a 12% reduction in DEQ's 2001-03 General Fund and a 2% reduction in DEQ's total operating budget. These cuts will carry over into the 2003-05 biennium and result in:

Reduced:

- Air and water quality monitoring and analysis
- Assurance that air emissions testing at permitted facilities is accurate
- Response to open burning complaints
- Identification and clean up of contaminated sites
- Outreach and public involvement
- Central services for Agency business operations

Delayed:

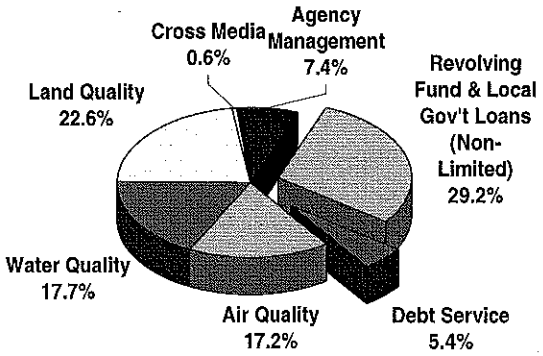
- Wastewater permitting
- Air and water quality improvement plans for local areas

As the state budget situation continues to unfold, DEQ is continuing conservative spending approaches and hiring practices.

2003-05 Governor's Balanced Budget

The Governor's 2003-05 total Balanced Budget for DEQ is $273,889,528. This budget is a 10% decrease in all funds from the 2001-03 Legislatively Approved budget, after the fifth Special Session.

2003-2005 Governor's Balanced Budget, By Program $273,889,528

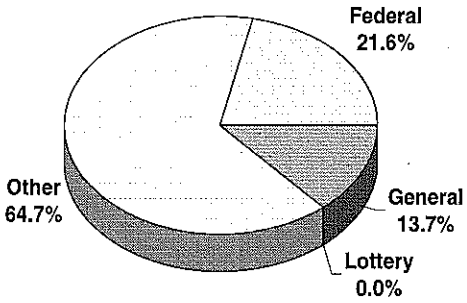


The $273,889,528 includes 12% General Fund for 2003-05. That is 23% less than the General Fund approved by the 2001 Legislature for 2001-03. In addition, DEQ will save Lottery Funds by self-financing debt service on bonds issued to provide loans to communities for wastewater treatment improvements.

DEQ's operating budget is $179,206,123. This is 65% of the total budget and is used to deliver work to protect and restore clean water, air and land. It does not include debt service or "pass through" dollars. DEQ's operating budget is funded mainly through "other funds", including fees and cost recovery.

Total Governor's Balanced Operating Budget, by Fund Type

$179,206,123



2003-05 Budget Priorities

DEQ's highest priorities in the Governor's Balanced Budget are to:

- Complete the Willamette River water quality improvement plan (TMDL)
- Support DAS certificates of participation for relocation of Health and DEQ laboratory
- Maintain federal delegation of the Hazardous Waste program through an increase in hazardous waste fees
- Maintain high quality vehicle inspection program (fully fee supported, no General Fund)
- Ratify air and water quality fee increases authorized by the 2001 Legislature

State of Oregon
Department of Environmental Quality

Office of the Director
811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-6785
(800) 452-4011
Fax: (503) 229-6730
Contact: Holly Schroeder
www.deq.state.or.us

Alternative Formats
Alternative formats of this document can be made available. Contact DEQ Public Affairs for more information (503) 229-5696.

Attachment B

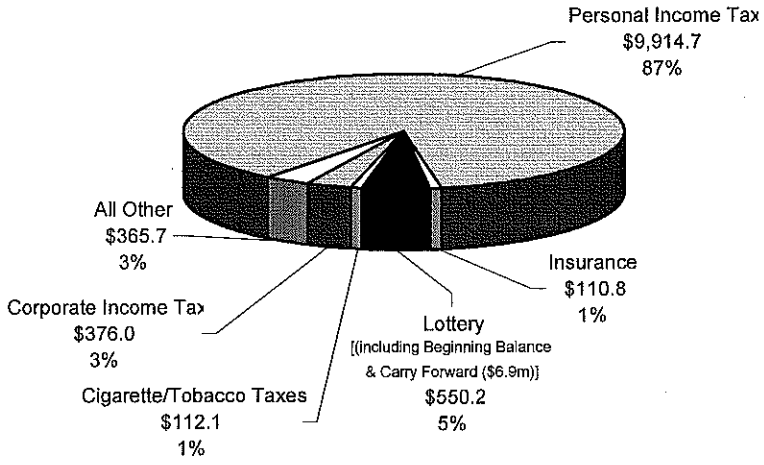
Last Updated: 1/29/03
By: Patti Seastrom

Attachment C

2003-05 General Fund/Lottery

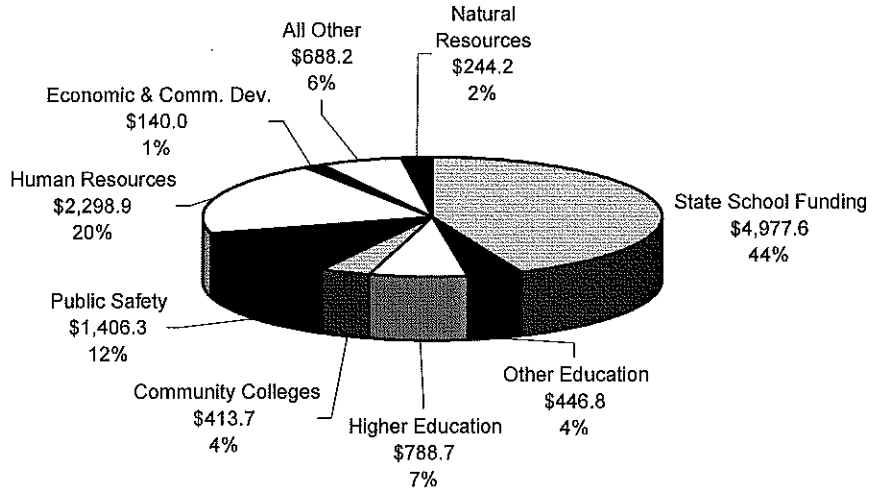
Resources

Total: $11,429.5 Million



Expenditures

Total: $11,404.4 Million



Source: http://governor.oregon.gov/ See "2003-2005 budget"

Attachment D

DEQ's 2003 LEGISLATIVE PRIORITIES

Recognizing the immediate challenges to Oregon's economy, DEQ supports the state's priorities of getting Oregonians back to work and streamlining regulatory processes. At the same time, DEQ is committed to its strategic priorities to protect people's health and Oregon's environment. DEQ's legislative priorities for 2003:

1) **Enhance services that make it easier for businesses to locate and thrive in Oregon.** DEQ will seek efficiencies and process streamlining while maintaining environmental protections. Even with efficiencies and streamlining, a certain level of resources is needed to be responsive to business and community needs. Areas we will seek legislative support:

   - **SB 197** – Ratify air and water permit fee increases previously approved by the 2001 Legislature. Maintaining these fees supports DEQ's work to issue timely air and water permits that Oregon businesses need.

   - Reauthorize bonds to leverage $30 million in federal funds. The bonds will be self-financed from the Clean Water State Revolving Fund (Fund). The Fund provides low-interest loans to build wastewater treatment systems and other water pollution control facilities, including nonpoint source projects. Inadequate or failing wastewater treatment systems are a barrier to development and growth.

2) **Maintain environmental accomplishments to protect public health and clean water, air and land.** Areas we will seek legislative support:

   - Continue cleaning up the Willamette River so it is healthy for drinking water, fishing and swimming, and its quality helps attract new businesses to Oregon. The Governor's Balanced Budget includes $387,000 in General Funds to continue 8 positions from July through December 2003, to complete the Willamette River TMDL.

   - Department of Administrative Services purchase and renovation of building for co-location of DEQ and Public Health laboratories. DAS will request certificates of participation.

   - Continue high-quality Vehicle Inspection Program (fully fee-supported, no GF).

3) **Keep delegation of federal regulations so the state, not the federal government, carries out federal environmental laws in Oregon.** Areas we will seek legislative support:

   - **SB 196** – Hazardous waste fee increases needed to keep delegation of the federal hazardous waste program.

January 17, 2003/lga

This letter was transmitted to agency Directors electronically on January 10, 2003.

January 10, 2003

Mr. Bob Lohn
Regional Administrator
NOAA Fisheries
7600 Sand Point Way NE
Seattle, WA 98115-0070

Re: Request to Initiate Work on a 4(d) Limit for Land and Water Uses that Are Carried Out in Compliance with the Oregon Plan for Salmon and Watersheds

Dear Mr. Lohn:

We write to request that the Northwest Region of NOAA Fisheries begin a cooperative effort with the State of Oregon and other stakeholders to develop a 4(d) Limit based on the Oregon Plan for Salmon and Watersheds. This rule would ensure that any person acting under a permit, standard, plan or program that is a component of the Oregon Plan is not subject to the take prohibitions for threatened salmonids issued by NOAA Fisheries. The purposes of this limit on the take prohibition are:

1. To see that the beneficial changes in land and water management committed to under the Oregon Plan continue to occur, while avoiding unintended consequences that have resulted from the take prohibition;
2. To provide those managing land and water resources with levels of predictability necessary for sustainable practices to be planned and carried out;
3. To recognize and support the contributions to the Oregon Plan that have already been accomplished; and
4. To ensure that our resources are devoted to the restoration and protection of salmon rather than to creating more process.

At the time the take prohibitions and limits for West Coast salmon and steelhead were adopted, NMFS recognized that it would be expanding its use of take limits over time:

> In the future, NMFS anticipates adding new limits for more activities that are deemed necessary and sufficient for the conservation of the species.

In its Final Rule, NOAA Fisheries also acknowledged that it will achieve greater conservation gains by relying on more specific state, local and private programs than by using its take prohibition alone. Final Rule, at 42423. And NOAA Fisheries understands that state-level conservation planning is particularly desirable.

> NMFS strongly encourages comprehensive conservation planning for programs at the state level. State level conservation programs can be one of the most efficient methods to implement

conservation practices across the board and achieve comprehensive benefits for listed fish and their habitats.

In response to comments in the rulemaking process for the Final Rule, NMFS addressed the issue of requests for additional limits based on state and local programs.

> The ESA 4(d) rule provides an option for state and other jurisdictions to assume leadership for species conservation at the state and local level over and above the conventional tools for processing state and local conservation planning under the ESA through section 7 consultations and section 10 permitting. NMFS is assembling all the Federal, tribal, state, and local programs needed to save salmonids and has offered to collaborate with any entity interested in this 4(d) option. NMFS is especially interested in state-level conservation efforts because state-level programs tailored to meet the needs of listed stocks can be a very efficient and comprehensive method to provide for the conservation of listed stocks and their habitat. A number of state and local entities have stepped forward to work with NMFS and we are anxious to work with them. However, limits that were not outlined in the proposed rule for public comment will have to be dealt with in a future amendment.

The State of Oregon is ready to accept NMFS's offer of collaboration in developing a 4(d) limit based on Oregon's conservation program. We are committed to supporting the effort with the necessary resources at both technical and policy levels. Our effort will document how the Oregon Plan produces a critical integration of actions and results that emphasizes the positive and limits the unintended negative consequences in a manner that merits a 4(d) limit.

There are several reasons why we believe that the time is ripe for a broad, statewide conservation program to be utilized to carry out the mandate of the Federal ESA. First, alleged uncertainties regarding funding and implementation that were cited by NOAA Fisheries and others in the past as reasons for not relying on the state's program are no longer credible. With the passage and several budget cycles of implementation of Oregon's Ballot Measure 66, there is long-term funding for salmon and watershed protection in the state. The same is true of so-called "voluntary" elements of the Oregon Plan. There are now years of on-the-ground results that have been documented through monitoring in portions of the state that can be used as a reasonable basis for predicting future effects. Second, we now have over six years of experience under new fisheries regulations and artificial production programs that were put in place in the mid 1990s. Again, there is now enough experience with these programs to predict their biological effects with reasonable levels of certainty. Finally, in the arena of state and local regulatory programs, there has been a substantial increase in the level of knowledge concerning the key life stages and habitat needs of the threatened ESUs and, as a result, it should now be possible to come to substantive agreement concerning the regulatory measures that are necessary as the basis for a broad, landscape-level 4(d) rule.

To date, NOAA Fisheries has (for the most part) insisted that proposals for limitations to its take prohibition be programmatic rather than geographically based, restricting limits to specific classes of activity such as forestry, road maintenance, water diversions, and fishery management. We believe that segmenting comprehensive state land and water use programs into separate program or use elements is completely inappropriate. In the long term, insisting on this type of one-dimensional approach to salmon recovery is bound to lead to the failure of efforts to integrate federal and state efforts. Segmentation fails to recognize that state and local regulation of land and

water uses is an integrated, comprehensive whole, and that changes to one program element necessarily effect other parts of the regulatory system. As an example, Oregon's substantial restrictions on development of forest and farm lands have been quite successful in preventing conversion of these lands to other uses. A fundamental part of preventing land conversion is to ensure that resource use of these lands continues to be both environmentally sustainable and economically feasible. Conversely, to minimize the amount of lands that are urbanized, Oregon's programs push for more intensive urban uses. By segmenting its consideration of programs, NOAA Fisheries overlooks these critical interactions at the landscape level and misses a key opportunity to help provide broad incentives for habitat protection and improvement.

The following are key elements of the 4(d) take limitation we are proposing:

- The take limit would apply to the actions of any person that are taken pursuant to a permit or a program that is a part of the Oregon Plan. In addition, any action that complies with a regulatory standard that has been incorporated into the Oregon Plan would not be subject to the take prohibitions for salmonids within the State of Oregon.

- The scope of the Oregon Plan for purposes of this take limitation is defined by Oregon statute: ORS 541.405.

- Appropriate provisions for implementation, monitoring and evaluation would be adopted by a memorandum of agreement between NOAA Fisheries and the State, and the continued effectiveness of the proposed limit would rely on a program of continued adaptation of specific provisions of the Oregon Plan as necessary to ensure the conservation of each of the listed ESUs.

- The take limitation would terminate for any ESU in the State of Oregon that is no longer listed as threatened under the Federal ESA, and would apply only to those ESUs listed as threatened as of the date of adoption of the rule including the limitation.

- The proposed new 4(d) limit is not intended to overlap with existing take limits, or with take authorizations provided under section 7 or section 10 of the Federal ESA. Thus, for example, although the existing take limit for routine road maintenance is a part of the Oregon Plan, it would be excluded from this effort.

We look forward to working with NOAA Fisheries to develop and adopt a program that will make it clear to the public how Federal and state efforts to recover salmonids complement each other. We believe that such a program is required in instances, such as this, where Federal initiatives impose on areas traditionally subject to exclusive state and local control - such as land and water use regulation. We thank you and your staff in advance for your cooperation in working with us to carry out this important initiative.

Very truly yours,

Governor John A. Kitzhaber, M.D.

Governor-elect Ted Kulongoski

1/31/03 EQC Meeting, Item F Handout

Public Health Consultation

The View-Master Factory Supply Well
(a.k.a. Mattel Portland Operations)
Beaverton, Washington County, Oregon
EPA Facility Number: OR0002043065

Prepared by
Oregon Department of Human Services
under cooperative agreement with the
Agency for Toxic Substances and Disease Registry

Summary

The View-Master stereoscopic slide viewer has been a popular children's toy since the 1950s. For nearly half a century, View-Masters were made exclusively at a factory located on Hall Boulevard in Beaverton, Oregon. Throughout this period, an on-site supply well provided water for industrial purposes and for human consumption. In March 1998, chemical analysis of the View-Master factory supply well revealed the presence of the degreasing agent trichloroethylene (TCE) at concentrations as high as 1,670 micrograms per liter (µg/L).

TCE had been used at the View-Master factory for cleaning manufacturing equipment and for degreasing metal parts prior to painting. Drums of degreaser waste were dumped on-site from the 1950s to the 1970s. The factory began recycling the spent solvent in the 1970s and discontinued the use of TCE in 1980 (1). On the basis of an examination of the hydrology of the site, the Oregon Department of Environmental Quality (ODEQ) estimates that TCE had contaminated the drinking water at the View-Master plant for more than 20 years (2).

The Environmental Protection Agency (EPA) has classified TCE as a probable human carcinogen (3). TCE has also been implicated in a variety of noncancerous adverse health outcomes. The contamination at the View-Master plant has received intensive coverage in local news media, and former workers and their families have raised concerns about cases of cancer and birth defects. In this public health consultation, the Oregon Department of Human Services (ODHS) evaluates the public health significance of the TCE contamination in the View-Master factory supply well. On the basis of the levels of TCE found in the supply well, the past use of the well as a source of drinking water, and the potential for adverse health effects resulting from past exposure to TCE, ODHS considers this site a public health hazard.

Background

The facility is located at 8585 SW Hall Boulevard in the city of Beaverton, Washington County, Oregon. The site is approximately 6 miles southwest of Portland, Oregon. Figure 1 in the Appendix shows the location of the site.

Historically, the site has had numerous owners. Figure 2 in the Appendix provides a chronology of the property's ownership and operation. The first company, Sawyer's Inc., moved to the site in 1950 to establish a facility to manufacture the View-Master stereo viewer, which had been invented in 1939 by William Gruber. General Aniline and Film Corporation (GAF) acquired Sawyer's Inc. as a wholly owned subsidiary in 1966, and operated the plant until 1981. GAF sold its pictorial products business to View-Master International Group in 1981. View-Master merged into a subsidiary of Tyco in 1989. Tyco merged with Mattel in 1996.

The original facilities manufactured photographic equipment, slide projectors, and other products, in addition to View-Master viewers. Specific operations included preparing metal parts (metal stamping, cleaning, and painting), creating plastic parts by injection

molding, lens grinding, assembly, photographic production, and printing of packaging and reels. Metal parts were degreased with TCE, and most of the degreasing occurred in one building known as the "Paint Shop." TCE was used until degreasing operations ceased in 1980, at which time GAF phased out the manufacture of slide and movie projectors that required metal parts for assembly (1).

Historical practices resulted in releases of hazardous substances at the site. Sanitary wastes from the facility were directed to a septic tank and drain field from 1951 to 1962, at which time the facility joined the municipal sewer system (4). Frequent chemical spills allegedly occurred in the paint shop. A runaway chemical reaction and subsequent fire occurred in the degreaser on September 12 and 13, 1969, resulting in a catastrophic release of TCE. Former GAF employees report that waste TCE from the degreaser was routinely placed in 55-gallon drums, transported by truck to Parcel 3, and discharged to the ground (1).

In March 1998, a potential site developer retained SECOR an environmental consulting firm, to conduct a site assessment of the View-Master facility. SECOR identified several concerns, including possible contamination in a former drain field and in oil-filled transformers, historical use of chlorinated solvents, and possible metals contamination beneath the film processing building. As part of its investigation, SECOR analyzed samples from the on-site production well. The 160-foot-deep well had been drilled during the original construction of the facility in 1950 to supply water for drinking, sanitation, and fire suppression.[1]

The first sample from the production well was collected on March 16, 1998. Two additional samples were taken on March 24, 1998, from sample ports on the wellhead manifold. SECOR's analyses indicate that the on-site water supply well had up to 1,520 µg/L of TCE. The EPA has set a maximum contaminant level for TCE in drinking water at 5 µg/L, or 5 parts of TCE per billion (ppb) parts water. SECOR's analyses also detected two other volatile organic compounds (VOCs) in the production well: cis-1,2-dichloroethylene (DCE) and tetrachlorethylene (PCE), at levels of up to 33 µg/L and 56 µg/L, respectively (5). The maximum contaminant level (MCL) for cis-1,2-DCE is 70 µg/L, and the MCL for PCE is 5 µg/L.

Tyco, a subsidiary of Mattel, was the property tenant and facility operator at the time of the sampling. On March 25, 1998, the parent company Mattel was informed of the production well sampling results. The following day, Seattle-based Hart Crowser Earth and Environmental Technologies collected verification samples from the well that confirmed the presence of TCE above maximum contaminant levels (6). Table 1 shows the levels of VOCs that were detected in the View-Master supply well, and the MCLs for each chemical.

[1] Although the View-Master facility would have been considered a public water system, the operators of the facility had failed to report the use of the well as a public water system. Monitoring of public water systems for volatile organic compounds (VOCs) was added in 1986 to Oregon Administrative Rules (OARs) under the Oregon Drinking Water Quality Act. The View-Master facility would have been responsible for performing analyses for VOCs beginning in 1991, when the definition of a Non-Transient Non-Community Public Water System was introduced to the OARs.

Table 1. Volatile organic compounds in the View-Master production well

Sample ID	Consultant	Date collected	TCE (µg/L)	cis-1,2-DCE (µg/L)	PCE (µg/L)
Prod. Well	SECOR	16 March 98	1220	15.2	34.5
Tyco 2S	SECOR	24 March 98	1520	20.5	56.0
Tyco 3S	SECOR	24 March 98	1390	33.0	42.3
Wellhead	Hart Crowser	26 March 98	1460	14.1	38.2
B1150/SHIP	Hart Crowser	26 March 98	1670	14.7	42.4
Maximum contaminant level*			5	70	5

*U.S. Environmental Protection Agency Drinking Water Standards and Health Advisories

Mattel shut down the well for all water distribution purposes on March 26, 1998. During the weekend of March 28 and 29, 1998, the facility water system was flushed, and all facilities were connected to city water. All water flushed from the system was collected and disposed of as hazardous waste (approximately 27,000) gallons. On March 30, 1998, the system was charged with city water (7). The factory continued to operate until May 2001.[2]

ODHS informed the federal Agency for Toxic Substances and Disease Registry (ATSDR) about the groundwater contamination at the View-Master site in April 1998. ODHS and ATSDR are currently reviewing the existing information about the View-Master site to determine the feasibility of an epidemiologic investigation of the former factory workers.

Mattel released to ODHS and ATSDR a list of approximately 13,700 people who were employed at the factory during the years 1951 to 1998. The list comprises 6,857 individuals who worked for Sawyer's or GAF during the years 1951 to 1981 (GAF Period), 6,468 who worked for Mattel or Mattel's subsidiaries during 1981 to 1998 (Mattel Period), and 373 who worked during both periods.

ODHS has considered using the U.S. Internal Revenue Service (IRS) tax records to verify the completeness of the employee list. ODHS is actively negotiating with Mattel to receive IRS records that would identify people employed during the Mattel Period. It may not be feasible, however, to use IRS records to identify people employed during the GAF period because GAF had employees at more than 200 sites throughout the country, and GAF used the same federal identification number for all sites in filing employer tax reports to IRS. Moreover, GAF is now in bankruptcy proceedings, and may not be able to assist ODHS with the retrieval of records from historic View-Master operations.

[2] Mattel relocated the manufacture of View-Master viewers and reels to Mexico, under the North American Free Trade Agreement. Mattel terminated employees at the Beaverton facility but retained administrative staff to inform former employees about the TCE contamination and coordinate company-sponsored medical screening examinations.

ATSDR linked the employee list with the National Death Index (NDI) to ascertain the causes of death among deceased former workers of the View-Master plant. The NDI search identified 973 individuals who died during the years 1952 through 2001. ODHS has supplemented the data with 63 additional deaths that occurred in Oregon from 2001 through 2002.

Under a cooperative agreement with ATSDR's Division of Health Studies to explore the feasibility of conducting a health investigation, ODHS conducted a preliminary analysis of the death data for the years 1995-2001. This analysis examined outcomes linked in previous studies to TCE exposure, such as cancers of the liver, pancreas, kidney, blood, and lymphatic system. While there was no evident excess in the proportions of deaths from liver cancer, lymphomas, or hematopoietic cancers, ODHS did observe increased proportions of deaths due to kidney cancer and pancreatic cancer among the former View-Master plant employees. ODHS determined that, compared with the general Oregon population, the proportions of deaths among the plant workers were two times as great for pancreatic cancer, and nearly three times as great for kidney cancer.

These findings do not conclusively demonstrate whether mortality from TCE-related causes among former View-Master workers is significantly excessive, as such a determination would require statistical adjustments for other risk factors and demographic characteristics, such as age and gender, that are not yet known. ODHS will perform further analyses as more information becomes available. The final results of the mortality analysis will be addressed in a separate report.

Information about the incidence of non-fatal illness is altogether lacking. Examining the contribution of TCE exposure to disease among former View-Master workers would require currently unavailable data about individual exposures (i.e., employment histories and water consumption) and about historical TCE concentrations in the drinking water. Environmental analyses and interviews with former workers would be necessary to rectify the deficiencies in the factual record.

Health Implications

TCE has been shown to cause liver and kidney cancer in experimental animals, and the EPA has classified TCE as a probable carcinogen for humans. Studies on the epidemiology of cancer among people exposed to TCE have found increases in kidney cancer, liver cancer, non-Hodgkin's lymphoma, cervical cancer, Hodgkin's disease, multiple myeloma, and pancreatic cancer, although evidence for the risk of pancreatic cancer has been inconsistent across studies (8). TCE has also been linked with a variety of noncancerous conditions, including anemia and other blood disorders, stroke, urinary tract disorders, liver problems, kidney dysfunction, diabetes, eczema, and skin allergies (9).

The potentially exposed population at the View-Master site includes those whose exposure occurred in utero.[3] A study on the reproductive effects of TCE suggests that more miscarriages might occur when mothers drink water that contains TCE. Other studies have linked prenatal TCE exposure with congenital heart disease, eye malformations, neural tube defects, and oral cleft palates (10, 11). The combined results of these studies are unclear, however, and further study is needed to understand the risk of reproductive and developmental effects associated with TCE exposure.

The children of employees might have consumed TCE-contaminated water during visits to the View-Master factory. Children might be more vulnerable than adults to TCE exposure because of age-dependent differences in metabolism, and because children might be more vulnerable to organ damage if toxic exposures occur during critical growth stages. Children listed in the National Exposure Subregistry of persons exposed to TCE were reported to have higher rates of hearing and speech impairment (9). An elevated incidence of childhood leukemia was observed among people in Woburn, Massachusetts, who used water for several years from two wells that were contaminated with TCE (12).[4]

The concentration of TCE discovered in the View-Master well was exceptionally high, at levels of up to 1,670 µg/L. Water from the production well was distributed throughout the facility via a 100,000-gallon water tower for industrial processes and was also used as drinking water. A completed exposure pathway therefore exists for people who drank from the faucets and water fountains of the plant. This would include management and office staff, assembly line workers, and family members of employees, as well as others who visited the site.

The number of people potentially affected is at least 13,700, and Mattel has estimated that the number might be as great as 25,000. At its height, the plant was one of the largest manufacturing facilities in Beaverton, employing more than 1,000 people at a time.

The nature of the View-Master exposure was primarily confined to one contaminant and one exposure pathway. Observed exposures to TCE have typically coincided with exposures to other contaminants as well. So, while TCE has been linked with significant adverse health effects, few studies have isolated TCE exposure, and results are therefore likely to be confounded by exposure to other solvents.

TCE was by far the most prevalent and significant contaminant in the View-Master factory supply well. Moreover, the pathway of exposure was essentially limited to drinking water. Under these circumstances, the direct effects of drinking water contaminated with TCE are far more susceptible to analysis than they have been in previous cases of TCE exposure.

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[3] Women made up approximately 60% of the workforce. Many women had children while employed at the factory, and worked during pregnancy.

[4] The single compound found in highest concentration in Wells G and H in Woburn was TCE, at 267 ppb; tetrachloroethylene, chloroform, methyl chloroform, trichlorotrifluoroethane, 1,2-dichloroethylene, and inorganic arsenic were also present.

The potential TCE exposures of View-Master Plant employees are also exceptional in that they might have occurred over a long period. Some individuals worked at the plant for most of their working lives, and might have been exposed for the duration of their employment. In addition, many former workers might have been suffering the effects of TCE exposure for a long time after the cessation of their exposure.

Conclusions

A combination of factors militates for a more in-depth study of this site: the levels of TCE were high; the potentially exposed population is very large; the nature of the exposure was primarily confined to one contaminant and one pathway; and the exposure and follow-up time might have been unusually protracted. Owing to these circumstances, further investigation of this site would advance the existing medical and scientific knowledge about the impact of TCE on human health. More importantly, ODHS considers the View-Master factory site to constitute a past public health hazard, and the Department perceives a pressing need for more thorough investigation of the impact of this hazard on the local community.

Recommendations

ODHS recommends further investigation that would include both (1) an environmental exposure assessment to confirm ODEQ's estimate of how long TCE was present in the supply well, and to provide a historical understanding of the concentration of TCE in the well, and (2) an epidemiological study to determine whether former workers have experienced adverse health and reproductive outcomes as a result of TCE exposure.

Specifically, ODHS recommends that the following be considered:

(1) Analyses of groundwater and fate transport to reconstruct the migration of the contaminant from the source areas to the production well. The analysis could help to establish the following:
   (a) When the TCE contamination initially reached the well;
   (b) The degree to which the concentration of TCE may have varied throughout the operation of the View-Master plant.

(2) Conducting an epidemiological study to enumerate all potentially exposed persons, determine the extent of individual human exposure, and document the health effects, if any, of TCE contamination on the health and reproductive outcomes of former workers. Specific methods could include:
   (a) Identifying and contacting all potentially exposed persons or their next of kin;
   (b) Collecting information about exposures and health outcomes by interviewing former workers or their survivors, investigating deceased former workers' causes of death, and reviewing the state cancer registry;

(c) Quantifying individual cumulative TCE dose based on length of employment, calendar years of employment, types of jobs held, and amount of water consumed;
(d) Comparing rates of morbidity and mortality among the former worker population to those of the general population of Oregon.

Author of Report

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Oregon Department of Human Services

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Appendix

The figures can be found on View-Master figures.pdf

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION
OF THE STATE OF OREGON

In the Matter of the NPDES Application of the Port of St. Helens for an Industrial Wastewater Treatment Facility at Clatskanie, Oregon.	))))	Findings and Order Pursuant to OAR 340-041-0026(3)

The Port of St. Helens has applied for a National Pollutant Discharge Elimination System (NPDES) Permit under the Clean Water Act (CWA) Section 402 and 468B.050. The permit is for a new treatment works to be located at Clatskanie, Oregon. The facility will take wastewater from two natural gas fired generators and an ethanol facility proposed to be located at the Port Westward industrial park in Columbia County. Permits for major new facilities must be reviewed and approved by the Environmental Quality Commission (Commission) pursuant to OAR 340-041-0026(5) based on the findings required in OAR 340-041-0026(3)(a).

The Commission heard staff reports and public comments on the proposal during its regular meetings on January 25, 2002, October 3, 2002, and December 13, 2002. The Commission also has reviewed and incorporated the annexed staff report and attachments to the staff report submitted by the Department as Agenda Item G for the January 30-31, 2003 Commission Meeting.

FINDINGS:

Based on the reports of the Department, public comments and the incorporated staff report, the Commission finds that the proposed new discharge load should be allowed and finds that all of the requirements of OAR 340-041-0026(3) have been satisfied. Specifically, the Commission finds:

1. The proposed discharge load will not cause a violation of water quality standards. OAR 340-041-0026(3)(a)(A).

2. The proposed discharge load will not unacceptably threaten or impair any recognized beneficial use. OAR 340-041-0026(3)(a)(B).

3. With the exception of temperature, the proposed pollutant loads are unrelated to any parameter for which the receiving water violates water quality standards or is water quality limited. OAR 340-041-0026(3)(a)(C). With respect to temperature, the

Commission finds that more specific and later adopted provisions in OAR 340-041-0026(3)(a)(F) apply in place of OAR 340-041-0026(3)(a)(C).

4. The proposed discharge is subject to a temperature management plan that meets the requirements of OAR 340-041-0026(3)(a)(D).

5. DEQ has listed waters of the state exceeding numeric temperature standards on the CWA Section 303(d) and prioritized the list after consultation with designated management authorities. The lower Columbia River has been listed and the Environmental Protection Agency (EPA) is in the process of developing a Total Maximum Daily Load (TMDL) in consultation with the Department and the Washington Department of Ecology. OAR 340-041-0026(3)(a)(E).

6. The expected cumulative impact of new or increased temperature discharge loads from point sources that require a NPDES permit, and from hydro-power projects that require CWA Section 401 certification, will not exceed 1.0 degree F. Even with the cumulative increase, in the best professional judgment of the Department, the cumulative impact of these new or increased loads will not conflict with or impair the ability of the surface water temperature management plan to achieve the numeric criteria. The proposed discharge load fits within the 1.0 degree F. increase, will be less than 0.25 degrees F, and will not result in a measurable impact on beneficial uses. OAR 340-041-0026(3)(a)(F).

7. The permit applicant has not petitioned the Department for an exception to OAR 340-041-0026(3)(a)(F) and accordingly OAR 340-041-0026(3)(a)(G) does not apply.

8. The permit applicant has not petitioned the Commission for an exception to OAR 340-041-0026(3)(a)(F) and accordingly OAR 340-041-0026(3)(a)(H) does not apply.

9. The receiving waters are not water quality limited for bacteria and the proposed discharge will not include bacteria. Accordingly, the provisions in OAR 340-041-0026(3)(a)(I) do not apply.

10. The proposed activities to be served by the treatment works are consistent with the local acknowledged comprehensive plan as evidenced by the Land Use Compatibility Statement issued by Columbia County. OAR 340-041-0026(3)(a)(J).

11. The Commission has considered the environmental effects criteria set out in OAR 340-041-0026(3)(b)(A). The non-discharge or limited discharge alternatives available to the dischargers may have limited adverse environmental effects. A zero liquid discharge option will generate solid wastes that must be transported and landfilled. This option also will consume significant amounts of energy. In addition, the mitigation requirements in the temperature management plan, over the long term, are expected to provide a net benefit to the basin, and there are no

perceived environmental benefits associated with a no-discharge or limited discharge option.

12. The Commission has considered the economic effects criteria set out in OAR 340-041-0026(3)(b)(B). There will be significant beneficial economic effects associated with the proposed new discharge. These include employment associated with the construction and operation of the facilities to be served by the treatment works and a substantial increase in the Columbia County tax base. Other benefits arising indirectly from the increased stability of energy supplies are also anticipated. These benefits are balanced against a discharge that is expected to have no measurable adverse impact on the Columbia River or in-stream beneficial uses of the river. Moreover, the overall costs of using no-discharge or more limited discharge options are expected to be significantly greater than the discharge option proposed in the draft permit.

ORDER: Based on the findings set out above, the new source discharge proposed by the Port of St. Helens is approved.

Dated this 7th day of February, 2003.

Mark P. Reeve
Chair
Environmental Quality Commission

GENE3801

State of Oregon

Department of Environmental Quality Memorandum

Date: January 17, 2003

To: Environmental Quality Commission

From: Stephanie Hallock, Director

Subject: Agenda Item G, Action Item: Make anti-degradation findings for the Port of St. Helens Proposed National Pollutant Discharge Elimination System (NPDES) Permit. January 30-31, 2003 EQC meeting

Purpose of Item The Environmental Quality Commission (EQC, Commission) is asked to make anti-degradation findings for the proposed Port of St. Helens wastewater discharge facility. Since this is a proposed new major industrial discharge the EQC must make the specific anti-degradation findings contained in OAR 340-041-0026(3).

Background The Port of St. Helens proposes to discharge wastewater to the Columbia River. The Port would act as the NPDES permittee for collection and discharge of heated wastewater from an ethanol plant and two energy generating plants to the Columbia River. The Columbia River is water quality limited for temperature, arsenic, DDT/DDE, PCBs, dioxin, total dissolved gas, pH, dissolved oxygen, and bacteria.

The Department provided an initial briefing to the Commission on January 25, 2002 and an updated briefing on October 3, 2002. At the October meeting the draft permit, permit evaluation, and anti-degradation findings were presented.

The Department held a public hearing and received public comment on the proposed permit and anti-degradation findings. The Department has summarized and responded to public comment and made modifications to the final permit and Temperature Management Plan.

This report provides the Commission with the information needed for making anti-degradation findings. Further background and supporting material is provided in the following attachments:

Attachment A Anti-degradation report,
Attachment B Response to public comment,
Attachment C Final permit and Temperature Management Plan (TMP),
Attachment D Public comment draft permit,
Attachment E Permit evaluation report, and
Attachment F Fish literature review

The anti-degradation report describes the social and environmental impacts. The final permit and TMP, and draft permit show the evolution of the permit during the review period. The response to public comments describes the comments received, the Department's response, and explains resulting permit changes. The permit evaluation report and fish literature review provided the bases for the Department's conclusion that standards are met and uses protected.

In order for the Department to proceed with a permit, the Commission must make the specific anti-degradation findings contained in OAR 340-041-0026(3) section (a) as described below the Commission must find the new discharge load:

(A) will not cause water quality standards to be violated;
(B) will not unacceptably threaten or impair any recognized beneficial use;
(C) does not generate increased pollutant loads related to the water quality limited status of the Columbia River;
(D)-(H) meets specific rules for when a proposed new thermal load can be allowed to a stream water quality limited for temperature;
(I) meets the requirements for bacteria management plans; and
(J) is consistent with land use law.

The anti-degradation policy further recognizes that unused assimilative capacity is a valuable resource. In addition to the findings above, the Commission must consider specific environmental and economic effects criteria (OAR 340-041-0026(3)(b)(A-B).

Major Issues

This is the first new major discharge proposed for a water quality limited stream segment in several years. There are several legal and policy issues associated with this action.

The proposed project would provide significant local economic and social benefits (Attachment A). The Department's analysis finds the risk of environmental impact to be negligible. There are, however, several issues related to the interpretation and application of the relevant state and federal regulations. Some commenters have suggested rule and statute interpretations different from the Department's. Therefore, the risk of a challenge to the EQC decision exists. These issues will be discussed as they relate to the findings listed above for anti-degradation.

Issues related to OAR 340-041-0026(3)(a)(A)

One commenter raised broad concerns about the presence of toxics, their effect on beneficial uses, and asserted that due to uncertainty, we could not find that the narrative toxic criteria was achieved. Many of the issues discussed relating to toxics are complex and influence a wide range of beneficial uses. However, the information presented by the commenter was not directly related to the proposed discharge.

Two issues were raised regarding chlorine. First, the relationship between chlorine in the effluent and the creation of dioxin and chlorinated organics. Second, the ability to treat chlorine. The Columbia River is WQL for dioxin and a TMDL has been established. The proposed chlorine discharge will not create dioxin. The extreme heat and combustion necessary is absent. The effect on chlorinated organics is not quantified and no information suggests it would lead to any standards violations. Chlorine could, however, be efficiently treated. Water quality based effluent limits have been proposed in the permit for chlorine. These limits will be achieved by a combination of dechlorination and volatilization.

For those parameters not water quality limited in the river, no specific information was received indicating that the discharge would cause water quality standards to be violated.

Issues related to OAR 340-041-0026(3)(a)(B)

As part of the evaluation, the Department applied the applicable temperature criterion of 68 °F. The 68 ° F criterion is criticized by many as not being fully protective of beneficial uses. A criterion of 64 °F is broadly used to protect salmonid rearing. The river at times is between 64 °F and 68 °F. To fully protect uses one commenter suggested the effluent limits and mitigation should apply for any period when the river would likely exceed 64 °F. The Department's finding that the discharge will not impair cold water use was based on a much broader evaluation of the potential exposure to temperature above ambient than just the 68 °F criterion. However, it would not be a substantive economic burden to operate the cooling towers-heat exchanger system and achieve the thermal waste load allocations for the time period the river may exceed 64 °F.

Issues related to OAR 340-041-0026(3)(a)(C)

Several commenters raised concerns about the proposed discharge occurring to a water quality limited stream without the benefit of a TMDL being set for parameters that are violating standards. The commenters questioned whether the specific exceptions identified in Section C were met for these parameters and suggested that the permit should not be granted until TMDLs were completed. The exceptions in Section C include: (1) a finding that the parameter being discharged is unrelated to the parameters causing the stream to

be water quality limited, (2) TMDLs are set and sufficient reserves capacity exist at the time of discharge, and (3) there are extraordinary circumstances with an existing, immediate, and critical environmental problem which needs to be solved.

The Columbia River 303(d) listings for the toxic compounds PCB, DDT/DDE, arsenic, and dioxin are related to human health criteria. The discharge does not add or generate any of these pollutants. However, any of these pollutants found in the intake water will be concentrated by evaporation in the cooling towers. Some of the intake water will be drawn from below the river bed and the actual concentrations may be below those estimated in the permit evaluation report. Even so, the discharge has no reasonable potential to cause or contribute to acute or chronic toxicity standard violations at the mixing zone. The potential increase relative to the human health criteria is negligible. The proposed discharge would not interfere with any future TMDLs or implementation plan's ability to attain the standard. These toxic compounds in the effluent are not from the outside world as described by EPA, but are from the same water body to which they will be returned. The discharge does not significantly change the form or impact of these pollutants or create a load increase subject to anti-degradation review.

The Columbia River is currently water quality limited for dissolved oxygen, pH, total dissolved gas, and bacteria. The proposed discharge is unrelated to bacteria and total dissolved gas. The proposed discharge has no reasonable potential to cause or contribute to a pH standard violation. However, by mutual agreement effluent pH limits have been put into the permit to assure compliance at the end of the pipe. The proposed discharge has no reasonable potential to cause or contribute to a dissolved oxygen standard violation.

In addition, the river does not currently violate pH or the dissolved oxygen standards. The current listings were based on old data and old standards that do not reflect current water quality. The Department has de-listed the Columbia for pH, bacteria, dissolved oxygen, total dissolved gas (a TMDL completed), and DDT in the new list which is scheduled to be submitted to EPA.

Issues related to OAR 340-041-0026(3)(a)(D-H)

The Columbia is water quality limited for temperature and the conditions in Section C are not met for temperature. However, sections D-H of the same rule provide specific directions describing when a new thermal load can be permitted in a water quality limited stream. The only way to read these more specific rules to have any meaning is that they are not precluded by Section C. The proposed discharge can be permitted under Section F of the specific rules. The proposed thermal load increase is consistent with the state standards

approved by USEPA specifically addressing new loads to streams exceeding the numeric temperature criteria. Completion of the temperature TMDL would have made the analysis for making the anti-degradation findings easier. However, the Commission would need to make the specific anti-degradation findings so long as the river exceeds numeric criteria. Available data demonstrate the river would exceed numeric criteria under natural conditions.

The application of a mixing zone for temperature has been questioned by commenters. State rules require that water quality standards be met outside the assigned mixing zone. The Columbia River at times exceeds the basin temperature criterion of 68 °F. Some commenters assert that this rule prohibits the use of mixing zones on water quality limited streams. The Department disagrees with this interpretation. The specific rules guiding the conditions for which a new source may be allowed to discharge to a stream water quality limited for temperature prior to a TMDL specifically allow the use of a mixing zone. The Department does not interpret mixing zone rules to prohibit mixing zones in water quality limited streams and has never disallowed a mixing zone solely because the stream is water quality limited. The Department's concern is to ensure that the discharge will not cause or contribute to a violation of water quality standards outside the mixing zone.

One commenter asserted that Section F of these rules, which allows a thermal load increase to a water quality limited stream, constitutes a variance requiring a public process equivalent to a new standard, including EPA approval and consultation with the fisheries agencies. The Department disagrees with this interpretation. The Department clarified in a letter to EPA as requested as part of the standards approval that Section F of the rule was an implementation policy, not a variance. The EPA subsequently approved the standard and cited this letter. However, EPA also incorrectly identified Section F as a variance policy. The error by EPA does not change the plain language of the rule or the intent of the rule as expressed by the Department.

The proposed mitigation program is both lauded and criticized in the public comment. Comments expressed concern that although the permit requirements are explicit, the actual projects have not been developed. Projects are to be developed after the effectiveness of the heat exchanger is measured. The Department believes this approach to be consistent with the EQC's policies to both encourage the development of technology and to consider mitigation. The proposed mitigation strategy would require that the excess heat generated be equivalent to the heat mitigated over 40 years. Since it takes time for trees to grow, during the initial years more heat could be discharged than mitigated. During the latter years and once the mitigation is mature, more heat would be

mitigated than discharged. Although inherent in the strategy there is not an explicit ratio for mitigation. Some commenters believe that a mitigation ratio, such as 2:1, should be required. The Department has not yet developed guidance for mitigation and no policy exists describing a mitigation ratio.

Issues related to (OAR 340-041-0026(3)(a)(I-J)

No issues were raised regarding bacteria and land use.

Issues related to environmental economic effects (OAR 340-041-0026(3)(b)(A-B)

The EQC must consider both economic and environmental impacts when making the anti-degradation findings. These comparisons can be subjective because the cumulative influence of multiple small impacts is difficult to quantify. The Commission is asked to allow another discharge to a river that already has substantial environmental demand placed on it. However, the economic benefits are significant as measured by employment, payroll, and taxes. The Port of St. Helens believes any substantive delay could eliminate funding opportunities and may therefore eliminate the project.

The proposed discharge would implement an effective temperature management plan providing a valuable precedent for implementing the Commission's policy on temperature. The application of a heat exchanger in addition to state-of-the-art cooling towers establishes a high expectation for treatment that may virtually eliminate excess heat loads. The additional requirements for mitigation would further reduce potential environmental impact and result in ecological improvement over time.

The Department believes the proposed system achieves the environmental and economic effects criteria and is the most cost effective system. Further changes are proposed to reduce chlorine and extend the time period for application of the thermal limits and operation of the heat exchanger.

Schedule and timing issues:

The Department intends to submit a revised 303(d) list to EPA in the immediate future that will include fewer water quality parameters that violate standards in the Columbia River. The proposed 303(d) list will include temperature, arsenic, PCB and DDE in the reach where the discharge is proposed and delist the river for pH, dissolved oxygen, DDT, and total dissolved gas. (Total dissolved gas was delisted because a TMDL was completed, and pH, dissolved oxygen and DDT were delisted because they were found to not violate standards.) If EPA's approval of the revised 303(d) list had occurred before Commission consideration of the anti-degradation findings, the Commission would have fewer findings to make under Section C of the rules.

A second timing issue relates to the temperature TMDL. A draft TMDL for temperature is, and has been for some time, nearing completion. The draft TMDL includes an allocation for the proposed source and an allocation for future growth and development. The completion of a TMDL would have simplified permitting issues and made the analysis for anti-degradation easier. However, these actions will not influence the assessment of environmental impacts, preclude any of the anti-degradation findings, or eliminate the permitting issues.

Ancillary permit issues:

In an issue ancillary to the anti-degradation findings, comments suggest that federal regulations could be read to prohibit a new discharge load to a water quality limited stream until a TMDL is complete. The federal regulation, 40 CFR 122(i), prohibits issuance of an NPDES permit to a new source that will cause or contribute to the violation of water quality standards. This rule then establishes an exception where a TMDL exists. This issue is not part of the anti-degradation issues that the Commission must act on. However, the Department finds that the proposed discharge will not cause or contribute to a standards violation. Application of the exception is not necessary.

One comment questioned why the Port of St. Helens was the sole permittee rather than having all the industrial sources as co-permittees and questioned how this decision could influence a citizen lawsuit. Under the applicable rules the Department has the discretion to issue a permit to the Port as the sole permittee. The Department believes that since the Port will operate and maintain the common system, they are in the best position to ensure compliance. Further, this approach will simplify future permit actions and any enforcement actions that are necessary. Any citizen who wants to lodge a complaint may do so using the customary means.

Department recommendation

Based on the general responses above and the detailed information found in Attachment A, Attachment B, Attachment E, and Attachment F, the Department recommends that the EQC find that:

(A) The new discharge load will not cause water quality standards to be violated;
(B) The new discharge load will not unacceptably threaten or impair any recognized beneficial use of the Columbia River;
(C) The discharge does not generate increased pollutant loads related to the water quality limited status of the Columbia River;
(D)-(H) The Department's finding that the proposed thermal load can be permitted under Section (F) is appropriate;
(I) That the discharge is not related to bacteria; and
(J) The proposed facility is compatible with state land use law based on the valid Land Use Compatibility Statement.

The Department further recommends that in considering the specific environmental and economic effects criteria, OAR 340-041-0026(3)(b)(A-B) that the EQC:

1. Concur with the proposed temperature management plan that requires a heat exchanger and mitigation as defined in the draft permit;
2. Concur with the proposed permit modification to retain the use and application of the heat exchanger and temperature limits through the period when the river can be expected to exceed 64 °F;
3. Concur with the chlorine limits designed to be achieved through dechlorination and/or volatilization, and
4. Concur with a pH end of the pipe limit of 6.5 – 8.5 only if the water quality limited designation is retained by the time of discharge.

The Department recommends that the Commission not delay their decision until the Columbia River TMDL is complete. The discharge complies with state rules for allowing new sources. The completion of the TMDL will not resolve any of the substantive issues. The exception to the federal rules for not adding or contributing does not apply. Further, the TMDL would not by itself implement those exceptions, the development and implementation of a management plan is also needed. There would be continued controversy about the adequacy of any plan. Delay would not likely change the evaluation of impacts or reduce uncertainty.

Attachments

Attachment A: anti-degradation analysis,
Attachment B: response to public comment,
Attachment C: final permit and temperature management plan,
Attachment D: public comment draft permit,
Attachment E: permit evaluation report,
Attachment F: fish literature review

Approved:

Section: Robert P Baumgartner

Division: Neil Mullane

Report Prepared By: Robert P. Baumgartner
Phone: 503/229-5323

Attachment A
EQC, January 30-31, 2003
Agenda Item G

Port of St. Helens NPDES Permit Application Antidegradation Review

Summary:
In order to maintain the quality of waters in Oregon, it is the general policy of the Environmental Quality Commission (EQC) to require that growth and development be accommodated by increased efficiency and effectiveness of waste treatment and control such that measurable future discharged waste loads from existing sources do not exceed presently allowed discharge loads except as provided in specific rules. The Antidegradation Policy is contained in OAR 340-41-026(3) and requires specific findings in section (a). The Department recommends that the EQC make findings for specific sections of the rules (referenced below) as follows:

(A) The new discharge load will not cause water quality standards to be violated;
(B) The new discharge load will not unacceptably threaten or impair any recognized beneficial use;
(C) The discharge does not generate increased pollutant loads related to the water quality limited status of the Columbia River;
(D)– (H) The Department's best professional judgment that the proposed discharge may be permitted under section F because it will be within the 1°F allowance and not impair the ability of the temperature management plan to meet numeric criteria is appropriate;
(I) The discharge is not related to bacteria; and
(J) The proposed facility has a signed Land Use Compatibility Statement and is therefore compatible with state land use law.

The Antidegradation Policy further recognizes that unused assimilative capacity is a valuable resource. In addition to the findings above, the EQC should consider specific environmental and economic effects criteria when allocating unused assimilative capacity. These considerations include adverse out of stream effects, instream effects, beneficial uses, value of the assimilative capacity, and the cost of treatment technology. The Department proposes that the EQC find that:

> The proposed discharge with a temperature management plan incorporating the mitigation of excess permitted heat load and the development of companion heat exchanger technology achieves the environmental and economic effects criteria.

The proposed system, including the development and implementation of a heat exchanger and thermal trading, is consistent with the EQC policies for writing permits for sources discharging to water quality limited streams. In these policies the Commission encourages the development and implementation of innovative technology to reduce temperature from point sources. These policies also encourage the implementation of trading or mitigation to reduce stream temperatures. The proposed temperature management plan does both. The proposed system is consistent with the proposed

temperature total maximum daily load, supports the reversal of surface water warming trends, encourages the proactive development of temperature control technologies, and appropriately applies thermal trading or mitigation in the temperature management plan.

In making these recommendations the Department followed the Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 water quality certifications (March 2001). Appendix B of this directive provides the detailed worksheet for making the findings. The specific application of Appendix B for the proposed discharge is attached.

Proposed project.
The Port of St. Helens submitted an application to DEQ in February 2002 for an NPDES permit at the Port Westward site near Clatskanie. The Port proposes constructing a waste water collection system, pump station, and outfall structure to be used for new development and future industry capacity within the Port Westward Industrial Park in Columbia County.

Immediate new development is expected to include the Port Westward power generating plant (PGE), Summit Westward power generating plant (Summit), and a Cascade Grain Products (C-G) ethanol generating plant. The proposed facilities will provide pretreatment of industrial wastewater prior to discharge to the Port's wastewater collection system.

The primary pollutants generated and discharged are chlorine and temperature. Temperature is the primary concern since the Columbia River is water quality limited for temperature. The river is also water quality limited for certain toxics (DDT/DDE, PCB, arsenic) and dissolved oxygen; pH, bacteria and total dissolved gas, although the discharge will not generate pollutants associated with these parameters.

Antidegradation review requirements.
The intent of the antidegradation review is to provide information to support EQC's findings regarding the proposed NPDES permit application. The review includes proposed findings prepared by Department staff.

The antidegradation review requires a determination be made that there would be no unnecessary lowering of water quality. In addition, all water quality standards must be met and all beneficial uses must be protected. The Department reviewed consultant reports, performed separate modeling and analysis, and ultimately determined that there would be no lowering of water quality, that standards would be met, and that beneficial uses would be protected.

The antidegradation review requires a separate and detailed analysis for temperature consistent with the specific requirements for new thermal loads to water quality limited streams. The Department concluded that regulatory requirements for temperature and temperature management plans were met. A key component of the temperature review

was a conclusion that the proposed discharge would increase temperature by less than 0.25° F at the edge of an appropriately defined mixing zone. The actual increase in temperature will be dependent upon the final review of and implementation of the heat exchanger required in the temperature management plan.

The antidegradation review requires an evaluation of treatment alternatives to determine which alternative is the most cost effective and environmentally sound. It was concluded that all alternatives considered were technically feasible, but that the system proposed by the Port was cost effective and environmentally sound, and with the addition of a heat exchanger and mitigation, there would be a net benefit to the environment.

The review requires a consideration of impacts on the economy of the immediate area. The Department concluded that the Port Westward project would have positive impacts on the economy of northern Columbia County.

The review requires that consideration be given to the assimilative capacity of the receiving stream to ensure that the economic benefits from the proposed alternative would be greater than any loss of assimilative capacity. The Department concluded that there would be no loss of assimilative capacity (Permit Evaluation report) but that there would be substantial economic and environmental benefits in terms of positive impact on the local economy and that the most cost effective alternative (proposed system) was also the most environmentally protective system.

Findings from Appendix B: Antidegradation Review.

- The proposed system meets the requirements of OAR 340-041-0026 (3)(a)(A). "The new or increased discharged load would not cause water quality standards to be violated."
- The proposed system meets the requirements of OAR 340-41-0026 (3) (a) (B). "The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial use."
- The proposed system meets the requirements for water bodies water-quality limited for temperature as specified under OAR 340-041-0026 (3)(a)(D) through (F) of the Water Quality Limited Waters Policy.
- The proposed system meets the requirements for water bodies designated water-quality limited for bacteria as specified under OAR 340-041-0026(3)(a)(I) of the water quality limited waters policy.
- The proposed system, as an essential component of the Port Westward development, will have a very positive and permanent impact on the Columbia County economy, particularly the economy in northern Columbia County.
- The proposed system, including a heat exchanger and with mitigation, is the most cost effective and environmentally sound system evaluated, and it is the one system that could produce a net benefit to the environment.
- The proposed system meets the requirements of OAR 340-041-0026(3)(b)(A) Environmental Effects Criteria and (B) Economic Effects Criteria.

Appendix B: Antidegradation Review Sheet

**ANTIDEGRADATION REVIEW SHEET
FOR A PROPOSED INDIVIDUAL NPDES DISCHARGE**

1. What is the name of Surface Water that receives the discharge? Columbia River.

Briefly describe the proposed activity.
The Port of St. Helens (Port) proposes constructing a waste water collection system, pump station, and outfall structure to be used for new development and future industry capacity within the Port Westward Industrial Park (Port Westward), Columbia County. The proposed system will be sized to collect, convey and discharge a maximum of seven cubic feet per second (cfs), at river mile 53.

Immediate new development is expected to include the Port Westward power generating plant (PGE), Summit Westward power generating plant (Summit), and a Cascade Grain Products (C-G) ethanol generating plant.

The proposed facilities will provide pretreatment of industrial wastewater prior to discharge to the Port's wastewater collection system. The pretreatment will consist of cooling towers to discharge heat, settling basins, followed by discharge to the Port's system.

Pollutants of Concern.
The primary pollutants generated and discharged are chlorine and temperature. Temperature is the primary concern since the Columbia River is water quality limited for temperature.

The river is also water quality limited for certain toxics (DDT/DDE, PCB, arsenic) and the conventional pollutants dissolved oxygen, pH, bacteria and total dissolved gas. The discharge will not generate pollutants associated with these parameters.

The antidegradation assessment will review compliance and specific water quality regulations for water quality limited streams. These and all other standards will be assessed as part of the reasonable potential analysis.

Briefly describe the receiving stream.
At the point of discharge (river mile 53) average low flows in the summer are on the order of 130,000 cfs and the average low flows in the winter are about 370,000 cfs. A peak flow of 800,000 cfs was measured in 1997. The seven day low flow with a recurrence interval of 10 years is 90,500 cfs.

At the point of discharge the river is constrained by an island, about one-third mile wide. Immediately upstream the river widens to over a mile wide. The proposed outfall location is at the confluence of the Columbia River with Bradbury Slough and

flows from the Slough carry through the project site. The river is tidally influenced with tidal reversal but no salt intrusion.

Related proposed pollution control activities.
PGE and Summit have submitted applications for new Water Pollution Control Facilities (WPCF) permits for treatment and sub-surface disposal of domestic wastes (no-surface water discharge). These permits have been drafted, are now under interagency review, and will be issued in the near future. An application from C-G is anticipated.

PGE and Summit have submitted applications for new General NPDES permits (1200C) for control and management of storm water during facility construction. Permits have been issued to these applicants. An application from C-G is anticipated.

EPA temperature TMDL.
EPA is now taking comments on a proposed total maximum daily load (TMDL), waste load allocations (WLAs) to point and nonpoint sources, and compliance plans. The plans will establish allocations for temperature and will include requirements to reduce the thermal loads, ultimately to reach the numeric temperature criteria for the lower Columbia River. The draft TMDL includes a WLA for the proposed discharge as well as allocation for future growth and development.

Relationship to permit evaluation report.
This antidegradation review is a part of the NPDES Waste Discharge Permit Evaluation Report for the Port of St. Helens permit application. The review includes environmental and socioeconomic considerations.

Commission action required.
OAR 340-041-0026(3) requires the Environmental Quality Commission (EQC) to make specific findings under antidegradation for new or increased major source discharged loads to water quality limited streams. The Port of St. Helens NPDES permit application is classified by the Department as a major source discharge. Therefore, EQC findings are required.

The intent of this antidegradation review is to provide information to support Commission findings regarding the proposed NPDES permit application. The review will include staff findings.

This antidegradation review is for a new permit application.
Go to Step 2.

2. Is this surface water an **Outstanding Resource Water** or **upstream** from an **Outstanding Resource Water**?
No. Go to Step 3.

3. Is this surface water a **High Quality Water**?
   No. Go to Step 4.

4. Is this surface water a **Water Quality Limited Water**?
   Yes. Go to Step 13.

   The Columbia River, from Tenasillahe Island to the Willamette River, is listed as water quality limited on Oregon's 303(d) list for the following parameters:

Parameter	Criteria/Standard	Season
Temperature	20°C (68°F)	Summer
Bacteria	Water Contact Recreation (fecal coliform-96std)	Fall, Winter and Spring
Dissolved Oxygen	Cold water aquatic life: DO<8mg/l or 90% saturation	Summer
pH	6.5-8.5	Summer
Total Dissolved Gas	Shall not exceed 110% of saturation	Year Round
Toxics	Tissue-Pesticides (DDE, DDT)	NA
	Tissue-PCB	NA
	Arsenic-water	Year Round

13. Will the proposed activity result in a Lowering of Water Quality in the Water Quality Limited Water? No.

According to the Department's antidegradation directive, a lowering of water quality occurs if the proposed activity would likely result in any measurable change in water quality outside a defined mixing zone. The directive also describes specific guidance for developing best professional judgments that can be used to determine if an activity may result in a measurable change in water quality.

For temperature, based on OAR 340-041-0026(3)(a)(F)(ii), an activity that results in more than a 0.25° F change in temperature at the edge of a mixing zone will constitute a measurable change and lowering of water quality. For dissolved oxygen, an activity that results in more than 0.10 mg/L decrease at the edge of a mixing zone constitutes measurable change and a lowering of water quality. Following the antidegradtion directive no lowering of water quality can be based on the best professional judgment of Department staff. Consideration can be given to change in ambient conditions resulting from the discharge, percent change in loadings, percent reduction in assimilative capacity, nature, persistence, and potential effects of the pollutant parameter, potential for cumulative effects, predicted impacts on aquatic biota and degree of confidence in any modeling techniques used.

The waste discharge from Port Westward will not result in a 0.25° F increase at the edge of an appropriately sized mixing zone. The discharge from Port Westward will only have incidental amounts of BOD and no change in dissolved oxygen levels. Listed toxic compounds include DDT/DDE, PCB and arsenic. Dieldrin and PAH are proposed for listing. There will be a potential increase in concentration due to evaporation of water. However, this increase is not a meaningful lowering of water quality based on criteria for staff judgment in the antidegradation guidance. Regarding unlisted parameters there will be no measurable change in water quality.

Since there is no reduction in water quality, the Antidegradation Policy directive leads to a permit at step 24. However to describe specific evaluations of possible impact from the discharged waste load, and to support findings, sections 4-20 are presented below. Sections 21-23 provide information considered in evaluating the environmental and economic effects criteria as required by OAR 340-41-026(3)(b).

14. OAR 340-041-0026(3)(a)(A) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application to determine that all water quality standards will be met. Will all water quality standards be met? Yes. Note: Listed parameters do not meet water quality standards, and are the primary reason for designating a particular water body as "water quality limited."

Please provide basis for conclusion. Go to <u>Step 15</u>.

The Department has modeled the mass loadings for the listed parameters and has determined that the discharged waste load will not cause additional water quality standards violations outside a defined mixing zone. The Department has also reviewed all unlisted parameters (other water quality standards) and has determined that water quality standards will not be violated.

The review of parameters, listed in OAR 340-041-0026 (2), Water Quality Standards Not to be Exceeded is summarized from the Permit Evaluation Report.

Listed parameters.

- Dissolved Oxygen. The waste load will not have a substantive BOD load. Modeling performed by the applicant's consultant demonstrates a negligible drop in dissolved oxygen. Dissolved oxygen meets criteria where the discharge occurs. The discharge is unrelated to downstream dissolved oxygen depressions.
- pH. The waste load is not expected to have pH values outside the 6-9 range. The pH discharge will be buffered very quickly near the diffuser. The pH violations occurred in the past near Bonneville Dam upstream or where the discharge occurs, and was unrelated to conditions causing violation. The Department may propose delisting pH.
- Bacteria. The waste load is not expected to contain any bacteria discharge. Sanitary facilities at the Port Westward site are subject to WPCF (no surface water discharge) permit. (See also section 12, bacteria)
- Toxics. Pesticides, PCB and arsenic are listed. Dieldrin and PAH are proposed for listing. The waste load is not expected to contain toxic substances exceeding applicable chronic or acute water quality standards. The Department has performed a reasonable potential analysis and determined that water quality standards would not be violated outside of a defined mixing zone. The toxic compounds are concentrated due to intake of river water and subsequent evaporation. This concentration is theoretical and based on mass balance analysis is less than meaningful. The discharge of toxic compounds does not constitute a load increase subject to antidegradation review.
- Total Dissolved Gas. The waste load is not expected to increase total dissolved gas above 110 percent of saturation.
- Temperature. The waste load is not expected to result in a measurable increase in temperature (0.14°C or 0.25°F) at the edge of and outside a defined mixing zone. The mixing zone will meet all State rules and Federal design guidance. The mixing zone will be located to minimize risk of impairment to use. (See also section 10, for a discussion of temperature)

Other water quality standards.

- Turbidity. The waste load is not expected to affect in-stream turbidity.
- Total Dissolved Gases. The waste load is not expected to cause increases of dissolved gases in sufficient quantities to cause objectionable odors or to be deleterious to fish or other aquatic life, navigation, recreation, or other reasonable uses made of the receiving water.
- Fungi. The waste load is not expected to contain fungi or to promote their growth.

- Tastes or Odors. The waste load is not expected to create toxic or other conditions deleterious to aquatic life or to affect potability of drinking water or palatability of fish or shellfish.
- Deposits. The waste load is not expected to contain material which would cause appreciable deposition in the river.
- Offensive aesthetic conditions. The waste load is not expected to cause offensive aesthetic conditions.
- Radioisotopes. The waste load is not expected to contain radioisotopes
- Total Dissolved Solids. The permit application estimates monthly average TDS in the 785 range. Rapid dilution will reduce this to a few mg/L within a few meters of the diffuser.
- Chlorine. Chlorine concentrations will meet CCC and CMC at the edge of the mixing zone and zone of dilution.
- Toxics. There is no reasonable potential to cause or contribute to water quality standards violations or impair beneficial uses.

Conclusion.
The proposed discharged waste load from the Port Westward facility meets the requirements of OAR340-041-0026 (3)(a)(A).

15. OAR 340-041-0026(3)(a)(B) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application to determine that all beneficial uses will be met. Will all beneficial uses be met? Yes.

Please provide basis for conclusion. Go to Step 16.
Beneficial uses of the lower Columbia River in the area of the discharge point (river mile 53) include domestic and industrial water supply, livestock watering, irrigation, commercial navigation and transportation, aesthetic quality, wildlife and hunting, boating, fishing, and water contact recreation.

As noted in section 14 above, there will be no measurable increase in temperature, toxics and other listed parameters at the edge of and outside a defined mixing zone. The discharged waste load will have no impact on other water quality standards.

The Port's consultant stated that beneficial uses would be protected. ("Port of St. Helens Industrial Outfall National Pollutant Discharge Elimination System (NPDES) Permit Application," pages 31-32, David Evans and Associates, February 2002). The consultant concluded that the project may affect, but is not likely to adversely affect steelhead trout, chinook salmon, Snake River sockeye salmon, and Columbia River chum salmon and will not result in the destruction or adverse modification of designated critical habitat. The consultant further concluded that there would be no effect on Columbia River bull trout, and that the project is not likely to jeopardize the continued existence of coastal cutthroat trout. The report concluded that there would not be any significant adverse effects to the aquatic species.

According to the consultant's report (cited above, page 31) "salmonid migration is the most sensitive temperature-related beneficial use of the project area." A literature review conducted by the Department suggests that the potential impact of the proposed thermal loading on salmonid use in the lower Columbia River is not quantifiable. This finding was based in part on the available literature relating the impact of thermal plumes on salmonids and the placement of the outfall to minimize the risk of salmonids encountering the plume.

The consultant report (cited above, page 32) stated that "because the most sensitive beneficial use, salmonid use, is protected, the discharged waste load and outfall location is not expected to have any adverse affect on the other beneficial uses… ."

Conclusion.
The proposed discharged waste load from the Port Westward facility meets the requirements of OAR 340-41-0026(3)(a)(B).

16. OAR 340-041-0026(3)(a)(C)(i-iv) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application for one of the following: Will the discharge be associated (directly or indirectly) with the pollution parameter(s) causing the water body to be designated a Water Quality Limited Water? No.

Please provide basis for conclusion. Go to Step 17.

The pollution parameters causing the lower Columbia River to be designated water quality limited water are reviewed below.

- Bacteria. The waste load is not expected to contain any bacteria. Sanitary facilities at the Port Westward facility are subject to WPCF permit (no surface water discharge). Antidegradation requirements for bacteria are explicitly and separately covered in OAR 340-041-0026(3)(a)(I). See section 12 for a discussion of bacteria.
- Dissolved Oxygen. The waste load is expected to contain only incidental discharges of BOD, not associated with process waste waters. Based on review of monitoring data in the vicinity of the Port Westward facility, this section of the Columbia River is not water quality limited for dissolved oxygen. The Department may propose delisting this parameter.
- pH. This section of the Columbia River is not water quality limited for pH, and any pH violations are upstream of the proposed discharge. The waste load is unrelated to pH violations. The Department may propose delisting this parameter.
- Total Dissolved Gas. Total Dissolved Gas is unrelated to the Port Westward facility.
- Toxics. DDT/DDE, PCB and arsenic are listed. Dieldrin and PAH are proposed for listing. Toxics are concentrated due to intake of river water and subsequent evaporation. This concentration is theoretical and based on mass balance analysis is less than meaningful. The discharge of toxic compounds does not constitute a load increase subject to antidegradation review.
- Temperature. Antidegradation requirements for temperature are explicitly and separately covered in OAR 340-041-0026 (3)(a)(D-H) of the antidegradation policy.

Conclusion.
The proposed discharged waste load from the Port Westward facility meets the requirements of OAR 340-041-0026 (3)(a)(C) (i).

17. Is the water body water quality limited for temperature? Yes, the Columbia River sometimes violates the numeric temperature criteria during the months of July, August and September.
Go to Step 18.

18. Will the proposed activity meet the requirements for water bodies water-quality limited for temperature as specified under OAR 340-041-0026(3)(a)(D-H) of the *Water Quality Limited Waters Policy*? Yes.
Please provide basis for conclusion. Go to Step 19.

Review of requirements for temperature.
The antidegradation requirements for temperature described in OAR 340-041-0026(3)(a)(D-H), as applicable to the proposed Port Westward facility, are summarized as follows:

- Part (D) requires that the Port of St. Helens must submit and implement a temperature management plan for the Port Westward facility containing practices and control technologies to reverse the warming trend of the Columbia River.
- Part (F) allows new or increased discharged waste loads to the Columbia basin a 1.0 F cumulative increase in temperature.
- Part F requires:
  - the discharged waste load from the Port Westward facility must fit within the allowed 1.0° F cumulative increase such that it does not impair the ability of a temperature management plant to achieve the numeric criteria;
  - the discharged waste load from the Port Westward facility will not result in a measurable impact on beneficial uses; and
  - a showing of no measurable impact on beneficial uses must be made by demonstrating that the discharged waste load results in a temperature increase less than or equal to 0.25° F.

In the event the requirements of Part F cannot be met, the Port of St. Helens could petition the Department for an exception to F, provided it could meet the requirements in Part G.

- Part G requires:
  -the discharged waste load result in less than a 1.0° F increase at the edge of the mixing zone;
  -a demonstration must be made that the beneficial uses would not be adversely impacted; or
  -a demonstration can be made that all reasonable best management practices will be implemented, beneficial uses will not be significantly affected, and the environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

In the event the requirements of Part G cannot be met, the Port could request a Commission authorized policy variance in Part H until TMDLs and WLAs are established.

- Part H requires:
  -a description of how the beneficial uses would not be adversely impacted, or
  -a demonstration that all reasonable best management practices will be implemented, beneficial uses will not be significantly affected, and the environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

Application of Requirements to Temperature.

Cumulative increase allowed of up to 1.0° F for all existing and new sources. The proposed new discharge is a negligible component of the heat balance in the Columbia River. Existing point source discharges to the Columbia do not approach a 1.0° F increase. New source requests are rare and unlikely to approach current loads and cause a 1.0°F cumulative increase, consistent with the proposed TMDL.

The discharged waste load must fit within the allowed 1.0° F cumulative increase. The Port of St. Helens application is the first new source proposed under this rule. Thermal balance demonstrates much less than 1.0° F cumulative increase.

The discharged waste load will result in a temperature increase of less than or equal to 0.25° F. After reviewing the Port of St. Helens permit application and supporting reports including mixing zone studies, and after Department sponsored modeling and analysis, Department staff has determined that the proposed discharge will result in a temperature increase of less than 0.25° F at the edge of an appropriately defined mixing zone, and that the waste load will not cause a measurable increase in temperature outside this mixing zone. The Department sponsored modeling analysis identified several issue related to the mixing zone evaluation methodology and consistency with federal guidance. An updated report by the applicants addressed many of these issues. The final mixing zone size will depend in part of the update and review of the heat exchanger which is likely to substantively reduce potential effluent temperature. The final design will be consistent with federal guidance and comply with State mixing zone criteria.

The proposed discharge will not have a measurable impact on beneficial uses. This finding can be made by the demonstration that the there will be less than a 0.25° F increase at the edge of the mixing zone. The Department concludes that the mixing zone is placed and sized to minimize potential impact to beneficial uses. The temperature increase will be less than 0.25° F at the edge of the defined mixing zone. The temperature at the edge of the zone of dilution will be less the 25°C. Within the mixing zone there will be no acute toxicity within the initial zone of dilution, no chronic toxicity outside the initial zone of dilution but within the mixing zone, and the plume from the discharge ports would unlikely impact salmonid fishes. The location of the discharge 70 feet below the river surface would allow for fish passage and would result in potential heat exposure below those expected to cause impairment to salmonids encountering the plume. The mixing zone location will result in minimal impact on aquatic life.

The proposed discharge will not violate water quality standards. This condition is satisfied since there will be no measurable increase in temperature outside a defined mixing zone.

The applicant must meet the requirements for a temperature management plan. The Port has submitted a temperature management plan. Applicable components of the temperature management plan are incorporated into the permit.

Department recommendation.
The proposed discharged waste load from the Port Westward facility meets the Requirements for permitting new thermal loads to water bodies that are water-quality limited for temperature as specified under OAR 340-041-0026 (3)(a)(D) and (F) of the Water Quality Limited Waters Policy.

19. Is the water body water quality limited for bacteria? Yes.
Go to Step 20.

20. Will the proposed activity meet the requirements for water bodies designated water-quality limited for bacteria as specified under OAR 340-041-0026(3)(a)(I) of the *Water Quality Limited Waters Policy*? Yes

Please provide basis for conclusion. Go to Step 21.
There will not be any sanitary waste discharge to Port of St. Helens sewerage system. Sanitary facilities at the Port Westward site are subject to WPCF (no surface water discharge) permit. WPCF permits for PGE and Summit Westward have been drafted and are under review. The discharges will have no relationship as to why the Columbia River is water quality limited for bacteria.

Conclusion.
The proposed Port Westward development meets the requirements for water bodies designated water-quality limited for bacteria as specified under OAR 340-041-0026(3)(a)(I) of the water quality limited waters policy.

21. Is the proposed activity consistent with local land use plans? Yes.

Please provide basis for conclusion. Go to Step 22.

Columbia County has zoned Port Westward for industrial development. The Columbia County Comprehensive Plan and the Port Westward Urban Renewal Plan support new businesses in Port Westward to improve employment opportunities make northern Columbia County more economically self-sufficient and help diversify the local economy. The Port of St. Helens NPDES permit application includes a DEQ required Land Use Compatibility Statement (LUCS) signed by the Columbia County Planning Department. The Port Westward development complies with all applicable land use requirements. The Columbia County Planning Department has issued a conditional land use permit to Cascade Grain (C-G). The County is waiting for the Office of Energy to issue a site certificate to Port Westward (PGE) and Summit Westward (Summit) before taking further action. The Office of Energy intends to issue the site certificate to Summit on October 3, 2002 and may issue the certificate to PGE on the same date. The issuance to PGE may be delayed until completion of a contested case action but issuance is still anticipated within a month.

Conclusion.
The proposed Port Westward development is consistent with local land use plans.

22. OAR 340-041-0026(3)(b)(A) of the *Water Quality Limited Waters Policy* requires the Department to consider alternatives to lowering water quality. Were any of the alternatives feasible? Yes.

The Port's NPDES permit application and subsequent information submitted to the

Department provided information on six treatment and disposal systems, including the proposed system and five alternatives. Recently the Port's consultants discussed the potential for adding a heat exchanger to the proposed system, and the Department may consider mitigation as an addition to the proposed system.

A brief description of the systems is presented below, followed by a review of costs, possible environmental impact and affordability.

- The proposed system would consist of cooling towers, settling ponds, then discharge to the Columbia River. A mixing zone would allow the plant effluent to mix with Columbia River water within this zone (see the full permit evaluation report for a description of this system).
- A modification to the proposed system would be to add a heat exchanger after the cooling towers to further cool the plant effluent.
- Mitigation to reduce the total heat load such that there would be no net heat load to the lower Columbia Basin is a component of the modified proposed system. Mitigation would include tree planting and shading.
- Ground Water Mixing. This system would use cooling towers and then mix the discharge water with cooler ground water to lower the temperature of the water discharging to the Columbia River.
- Land Application. This system would transport plant effluent to a suitable location and irrigate cropland or poplar trees. There would be no discharge during the summer months when the Columbia River is water quality limited for temperature.
- Mechanical Chilling. This system would lower the temperature of the waste water using mechanical compression to increase the pressure and temperature of the refrigerant.
- Zero Liquid Discharge. This system would re-circulate the process water such that there would be no discharge to the Columbia River.
- Air Cooling. This system would use air cooled condensers to transfer waste heat from the power generation process to the atmosphere.

Cost.
Table 14-A presents total pollution control costs in present worth values for the six systems and two modifications to the proposed system. The time period is 40 years, the expected life of the facilities. The table displays capital, energy, maintenance and total costs.

The present worth values for the proposed system, ground water mixing, land application and mechanical chilling is well under $10 million. The modifications to the proposed system do not increase the cost significantly. The costs for zero liquid discharge, $53.6 million, and air cooling, $101.4 million are much higher.

Table 14-B relates present worth values of energy and total costs for pollution control. Energy is an important commodity. Energy costs may be made up by other producers of energy with associated environmental cost.

The present worth value of energy costs for the proposed system, ground water mixing

and land application is low relative to the other alternatives. Energy costs for air cooling are extremely high.

Table 14-A
Present Worth Values—Alternative Treatment Systems
(Costs in thousands of dollars, discount rate of 4%)

Alternative System	Capital	Energy	Maintenance	Total	Cost Ratio 1,163 = 1
Proposed System	500	69	594	1,163	1
Groundwater Mixing	1,500	124	1,188	2,812	2.4
Land Application	2,600	189	3,167	5,956	5.1
Mechanical Chilling	4,200	2,820	1,583	8,603	7.4
Zero Liquid Discharge	16,750	5,295	31,530	53,575	46.1
Air Cooling	36,500	63,337	1,583	101,420	87.2

*Cost information was provided by David Evans and Associates in the Port of St. Helens permit application. Conversion to present worth values by DEQ staff.

Table 14-B
Present Worth Values for Energy and Total Costs
Alternative Treatment Systems
(Costs in thousands of dollars, discount rate of 4%)

Alternative System	Energy Costs	Total Costs	Energy Costs as Percent of Total
Proposed System	69	1,163	5.93
Groundwater Mixing	124	2,812	4.41
Land Application	189	5,956	3.17
Mechanical Chilling	2,820	8,603	32.78
Zero Liquid Discharge	5,295	53,575	9.88
Air Cooling	63,337	101,420	62.45

Derived from Table 14-A

Environmental considerations.
Table 14-C summarizes possible environmental impacts from each system. Information from this table is summarized below.

- Proposed System. There would be no measurable impact in the Columbia River. The river is water quality limited for temperature and any excess heat load has some transitional impact. However, the potential impact is not quantifiable and minor to negligible.
- Proposed System plus mitigation. Mitigation would involve tree planting in the lower Columbia Basin such that there would be no net heat load to the lower Columbia River. There would still be a discharged waste load from the Port Westward facility including a mixing zone for chlorine.
- Proposed System plus heat exchanger. A heat exchanger would be added to the system after the cooling towers to further decrease the temperature of the discharge. Mitigation could be added to this modification. In this case there would be no net heat load to the river and no measurable impact in the river.
- Ground Water Mixing. With ground water mixing there would be no temperature impact in the Columbia River. Ground water would be pumped and mixed to assure that the temperature criteria would be met at the end of the pipe. There would not be any measurable impact from other pollutants and probably a negligible adverse impact in the river. The mixing zone would still be required for chlorine. This mixing zone would be larger than that for the proposed system because of cooler water for mixing and larger volume of discharge. This alternative requires a secure and predictable quantity of ground water, however, the reliability of the deep aquifer is unknown. Use of ground water for dilution could reduce the availability for other potential uses such as drinking water or irrigation. In addition, this would be a seasonal (summer) system only. A mixing zone would be needed for the heat load and chlorine during the rest of the year, same as the proposed system. The cost is 2.4 times greater than proposed system.
- Land Application. There would be no impact in the Columbia River. This alternative would require an estimated 1000 acres of cropland land for 40 years. The ability to secure cropland is not known. This alternative may impact other water bodies due to poor soils including low percolation, high ground water table and poor soil characteristics which may result in runoff from site. In addition, this would be a seasonal (summer) system only. A mixing zone would be needed for the heat load and probably chlorine during the rest of the year, same as the proposed system. The cost is 5.1 times greater than proposed system.
- Mechanical Chilling. There would be no temperature impact in the Columbia River. This alternative can meet temperature criteria at end-of-pipe. There would not be any measurable impact from other pollutants and probably a negligible adverse impact in the river. The mixing zone would be larger than that for the proposed system because of cooler water for mixing. This system would produce a great deal of noise, and would transfer heat to the air. In addition, this would be a seasonal (summer) system only. A mixing zone would be needed for the heat load and probably chlorine during the rest of the year, same as the proposed system. The energy cost is 33 percent of total pollution control costs. Total cost is about 7.4 times greater than proposed system.

- Zero Liquid Discharge. There would be no impact in the Columbia River. This system would significantly impact landfill space by producing up to 28 tons solid waste daily. The system produces substantial noise from operation. Increased truck traffic (to haul out the waste) may add to noise, air pollution and congestion. The system would transfer heat to air, and would be very energy consumptive. In addition, this would be a seasonal (summer) system only. A mixing zone would be needed for the heat load and probably chlorine during the rest of the year, same as the proposed system. The cost is about 46 times greater than the proposed system.
- Air cooling. Air cooling would have a negligible impact in the Columbia River. A general permit may be required for a small amount of boiler blow down waste. This system would add a great deal of noise, transfer substantial heat to air, and would be extremely energy consumptive. The cost is very high, about 87 times greater than the proposed system.

Table 14-C
Environmental Considerations—Alternative Treatment Systems

Treatment Alternative	Impact on Columbia River	Impact on Other Media
Proposed System—Cooling Towers and Mixing Zone	*Excess thermal load to River—worst case of 7.0 c.f.s. and 86° F. *Discharge of toxic compounds (DDT, PCB, arsenic, chlorine) concentrated during the cooling process in concentrations greater than now found in river. *No measurable increase in temperature (less than 0.25° F increase) at edge of small mixing zone. *No increase in toxics concentration at edge of a mixing zone. *No acute toxicity within mixing zone; no chronic toxicity at edge of mixing zone. *No demonstrable impairment of identified beneficial uses. *Some theoretical impact with any new discharge to a water quality limited stream, but minor or negligible.	*No Impact
Proposed System Plus Mitigation	*Proposed discharge would have same impact on river at discharge point as proposed system*Mitigation would reduce heat load elsewhere in basin such that net increase is zero—should reduce temperature in basin.	*No impact
Proposed System Plus Heat Exchanger	*Substantially less thermal load to river than proposed system—perhaps meet temperature criteria at end-of-pipe. *No increase in toxics concentrations at edge of mixing zone. *No impairment of beneficial uses.	*No impact
Ground Water Mixing	*No excess thermal load to river (above 20 degrees)—can meet temperature criteria at end of pipe.*Mixing zone may be required to provide dilution for chorine. *Larger volume of discharge may require larger mixing zone than required under proposed system. *No acute toxicity within mixing zone; no chronic toxicity at edge of zone. *No impairment of beneficial uses. *Ground water mixing is seasonal (summer) system only. Would need mixing zone for heat load and chlorine during rest of year, same as proposed system.	*Large volume of ground water required may preclude other potential uses of ground water. *Assumes sufficient ground water is available—reliability of deep aquifer is unknown. *Pumping will use substantial energy—will preclude other energy uses.
Land Application	*No impact if irrigation water can be applied at agronomic rates. *Contrasting soil materials could result discharge to wetlands or other water bodies. *Poor percolation of soils and high ground water table must be considered in developing loading rates.	*No contamination of soils expected. *1000 acres of cropland needed for 40 year life of facilities. Acreage available about 4 miles from Port Westward.

Treatment Alternative	Impact on Columbia River	Impact on Other Media
	*Land application is seasonal (summer) system only. Would need mixing zone for heat load and chlorine during rest of year, same as proposed system.	*40 year present worth cost about 5.1 times greater than proposed system.
Mechanical Chilling	*No excess thermal load to river(above 20 degrees)—can meet temperature criteria at end of pipe. *Mixing zone still required to provide dilution of toxic pollutants (DDT, PCB, arsenic, chlorine) in concentrations greater than now found in river. *A cooler discharge may require a larger mixing zone than required under the proposed system. *No increase in toxics concentration at edge of a mixing zone. *No acute toxicity within mixing zone; no chronic toxicity at edge of mixing zone. *No impairment of beneficial uses. *Some adverse impact from toxics discharges, not measurable, but believed to be negligible. *Mechanical chilling is seasonal (summer) system only. Would need mixing zone for heat load and chlorine during rest of year, same as proposed system.	*Mechanical chillers would add noise. Mitigation may be required. *Substantial heat transfer to air—air quality rules would not be violated. *Very energy consumptive.
Zero Liquid Discharge	*No impact—no discharge to river during summer. *Zero liquid discharge is seasonal (summer) system only. Would need mixing zone for heat load and chlorine during rest of year, same as proposed system.	*Substantial heat transfer to air—air quality rules would not be violated. *Increased truck traffic adds to air pollution. *Requires adequate landfill space—up to 28 tons solid waste produced daily. *Very energy consumptive.
Air Cooling	*No impact—no process waste water discharge to river year round. *May be discharge of small amount boiler blow down waste—would require general permit.	*Substantial heat transfer to air—air quality rules would not be violated. *Would add a great deal of noise—mitigation may be required. *Extremely energy consumptive.

Affordability.
Appendix E of the Department's antidegradation guidance is intended to provide information on affordability. Affordability attempts to determine what range of pollution control costs are affordable and therefore can be implemented.

Table 14-D contains estimates of potential net return on investment, and on pollution control costs as a percentage of investment. Department staff does not have detailed information on the three facilities expected incomes, expenses, taxes or profits. Estimates are based on a three to five percent return on investments.

This first column in Table 14-D is simply the present worth value of pollution control costs as a percent of total investment. The total present worth value of pollution control costs for the proposed system is $1.163 million, and the total investment is estimated at $915 million. The pollution control costs as a percent of investment then is $1.163 million divided by $915 million which equals 0.13 percent.

The second two columns in Table 14-D relate annual costs to estimated annual net return. A 3 percent and a 5 percent annual net return were assumed. The annual costs were then calculated as a percent of annual net return for each treatment system. For example, annual pollution control costs were estimated to be about $73,000 for the proposed system. The net return is assumed to be 3% of net investment or $27.15 million. Annual pollution control costs as a percent of net return is then 0.3 percent.

Table 14-D
Pollution Control Costs as Percent of Total Investment
Alternative Treatment Systems

Alternative System	Pollution Control Costs as Percent of Investment	Annual Pollution Control Cost as Percent of Estimated Annual Net Return on Private Investment	
		3% return	5% return
Proposed System	0.13	0.3	0.2
Ground water Mixing	0.31	0.7	0.4
Land Applica-tion	0.65	1.4	0.8
Mecha-nical Chilling	0.94	2.1	1.2
Zero Liquid Discharge	5.86	11.8	7.1
Air Cooling	11.08	21.0	12.6

*Investment and cost information provided by David Evans and Associates in Memorandum "Additional Information Regarding the Port of St. Helens," and "Port of St. Helens Industrial Outfall National Pollutant Discharge Elimination System (NPDES) Permit Application." Department staff converted the basic information to total present worth costs and annual costs.

Conclusions.
All the treatment systems evaluated are technically and economically feasible. Costs vary substantially. This may influence company decisions as to whether or not to build facilities. Environmental costs are difficult to quantify objectively. There is no substantive benefit to water quality for alternatives beyond the proposed system with mitigation and heat exchanger.

23. OAR 340-041-0026(3)(b)(B) of the *Water Quality Limited Waters Policy* requires the Department to consider the economic effects of the proposed activity, which in this context consists of determining if the social and economic benefits of the activity outweigh the environmental costs of allowing a lowering of water quality. Do the social and economic benefits outweigh the environmental costs of lowering the water quality? Yes.

Please provide basis for conclusion. Go the Step 24.
This section enumerates the benefits from the proposed project and the environmental costs of the project within the context of whether lowering of water quality is necessary and important. "Necessary means that the same social and economic benefits cannot be achieved with some other approach and "important" means that the value of the social and economic benefits due to lowering water quality is greater than the environmental costs of lowering water quality.

OAR 340-041-0026(3)(b)(B) requires a review of the economic benefit associated with an increased loading, to the extent the loading uses assimilative capacity of the stream. The benefit of this increased loading is then compared with benefits to in-stream uses of that assimilative capacity, and with potential future beneficial use of the assimilative capacity. If the benefit of the increased loading is greater than the above two uses of the assimilative capacity, the project meets antidegradation requirements of the rule.

Benefits of proposed Port Westward development.
A brief review of the Columbia County economy is presented below followed by An enumeration of project benefits. An understanding of the current economic situation is necessary to realize the importance of the benefits.

Columbia County Economy. The Columbia County economy is perhaps atypical of most Oregon counties because more than half the County workers commute to jobs outside the county. According to census data, 21,525 residents in year 2000 were employed but there were only 9,330 jobs in the County. This means that about 57 percent of those employed in the County commute outside the County to work. Many of these workers commute to the Portland metropolitan area and some commute to the Longview-Kelso area. The weak economy in these areas has directly affected Columbia County business and employment.

Census information suggests that economic conditions in the County in year 2000 were similar to the rest of the State. In this year the Columbia County unemployment rate was 5.1 percent compared to 4.9 percent for the entire State, per capita income was $26,027 in the County compared to the State average of $27,649, and median household income in the County was $45, 797 compared to $40,916 in the entire State. Information from the PSU Center for Population Research and Census shows that population growth in Columbia County from 1990-2001 was 18 percent. During the same period statewide population growth was 22 percent.

Beginning in late year 2000 the Columbia County economy experienced a downturn which has continued through year 2002. The shutdown of the Trojan Nuclear Power Plant cost about 800 jobs, and many of these jobs were held by residents in the northern part of the County, mainly in the Rainer and Clatskanie areas. Partially offsetting this was some added employment when US Gypsum recently opened a plant in Rainier adding about 150 jobs.

Table 15-A below shows unemployment rates for the County, the State, and nearby areas
from year 2000 through August 2002.

Table 15-A
Selected Area Unemployment

	2000	2001	July 2002	August 2002
Columbia County	5.1	7.8	8.7	8.2
Clatsop County	4.6	5.2	5.2	3.8
Portland Area	4.0	5.9	7.5	6.3
Oregon	4.9	6.3	7.0	6.7

*Oregon Labor Market Information Systems data from Oregon Employment Department, and information from Al Stoebig, regional economist for northwest region, Oregon Employment Department.

Oregon Employment Department data in Table 15-A shows that the Columbia County unemployment rates are substantially higher than unemployment rates for the entire State or for the Portland Metropolitan Area. However, the trend is similar to the Portland area and the State. The Employment Department's regional economist believes that the higher unemployment rate is due to the relative isolation and rural nature of the northern part of Columbia County. In August 2002, the 8.2 percent County unemployment rate was fifth highest among Oregon counties.

The Employment Department does not keep statistics for northern Columbia County but the rate is believed to be much higher there than that for the southern part of the County which is directly tied to the Portland metropolitan area. This is attributed to the severe job losses from the Trojan Nuclear Power Plant shutdown and economic conditions in Longview-Kelso area in Washington. (Al Stoebig, Oregon Employment Department) The unemployment rate in adjacent Clatsop County, also isolated and rural, is much lower than Columbia County because much of the Clatsop County employment is tied to the pulp and paper mill at Wauna which has not experienced cutbacks.

The recent unemployment drop in Columbia County, 8.7 percent in July to 8.2 percent in August is very similar to the unemployment drop in the Portland metropolitan area, 7.5 percent in July to 6.3 percent in August. It appears that continued reductions in County unemployment will depend on the performance of the entire area and particularly the "high tech" sector of the Portland area economy.

The Oregon Economic and Community Development Department prepares an index of socioeconomic distress in the 240 communities and 36 counties in Oregon. The index

is compiled from eight indicators including unemployment rate, employment change, per capita personal income, average pay per worker, population change, percent of population receiving unemployment insurance benefits, industrial diversity based on distribution of employment by industry, and percent of families in poverty. The actual index of distress is an average of the eight indicators. The Statewide index value is set at 1.0. An index value of 1.20 qualifies a county for listing as distressed. For communities the index value is 1.25. The Columbia County index value is 1.05, and the Clatsop County value is 1.09.

There are several distressed communities in Columbia County, and all of these are located in rural parts of the county, including Clatskanie (1.28) , Prescott (1.54), Rainier (1.32) and Vernonia (1.35).

Population and index values for three Columbia County cities and several other communities in the State are presented in Table 15-B. These communities were selected based on populations similar to the three Columbia County cities and located within counties that are not listed as distressed. The index values suggest that many Oregon rural communities are distressed, including those in northern Columbia County.

Table 15-B
Selected Distressed Cities—Oregon

City	Year 2001 Population	Index Value
(Columbia County)		
Clatskanie	1530	1.28
Prescott	63	1.54
Rainier	1690	1.32
Vernonia	2220	1.35
(Other communities with similar populations)		
Brownsville	1460	1.37
Elgin	1660	1.56
Gold Beach	1920	1.41
Lafayette	2,600	1.29
Mill City	1550	1.54
Rogue River	1860	1.55
Stanfield	1980	1.53
Turner	1340	1.38

*Oregon Economic and Community Development Department, Distressed Areas and Associated Index Values. Year 2001 Population from PSU Center for Population Research and Census.

Project benefits. Project benefits relating to energy, tax revenues, jobs and payrolls are enumerated below.

- Energy. The Port Westward project will increase electrical power generation by about 1,170 megawatts—according to the Port of St. Helens permit application, this is 4.7 percent of the projected year 2005 need for an additional 25,000 megawatts in the regions that make up the Western Systems Coordinating Council (WSSC).
- Tax revenues. According to information supplied by Tom Fuller, consultant to the Columbia County, with assistance from the Columbia County Assessor's Office, the Port Westward project will generate increased property tax revenues estimated to be about $98 million during the 40 year expected life of the three proposed facilities. By year 2012 the tax burden of the three companies locating at Port Westward will be greater than 20 percent of County's current tax base. Some of the increased tax revenues will go to specific items such as County Sheriff's office, local road improvements and the Clatskanie Rural Fire Department. Other revenues will be used to help pay for the entire range of services that county government provides for its citizens.
- Temporary jobs. The Port Westward development will create about 900 construction jobs for 18-24 months. The increased jobs will have a positive temporary affect by increasing employment, reducing unemployment, increasing payrolls and increasing spending on businesses in Columbia County. Although some of these jobs will be held by persons residing outside the County, it is anticipated that County residents, particularly northern County residents will hold many of the jobs as well.
- Permanent jobs. Due to the proximity to the Trojan Nuclear Power Plant, Northern Columbia county now has a well trained labor force that can perform utility jobs. This increases the likelihood that residents now living in the County and particularly the northern part of the County will qualify for and secure many of these jobs. This will have a direct and positive impact on increased employment and reduced unemployment in this area.

  About 123 permanent jobs are anticipated at the three companies. Payrolls from these jobs will result in increased expenditures in Columbia County, ultimately resulting in additional jobs. The affect of new jobs in creating additional jobs is known as the employment multiplier. The Oregon Labor Department has estimated the employment multiplier to be about 1.90. The total number of jobs created by the three facilities will be about 234.

Table 15-C relates expected new employment to total employment. The employment numbers are estimates for year 2000 based on data from the US Census Bureau. The intent of the table is to show the impact of additional employment resulting from the Port Westward development. The data in the table suggest that total employment could increase as much as 1.1 percent and employment within the County could increase as much as 2.5 percent. If all the new jobs were held by Clatskanie residents, employment in Clatskanie could increase by about 33 percent. Although this is unlikely, the table does demonstrate that new employment generated by the Port Westward development would likely have a positive affect on Clatskanie and

northern Columbia County.

Table 15-C
Impact of Port Westward Development on Permanent Employment

Employed	Employment Estimates	Higher Employment with Port Westward Development	Percentage Increase in Employment
Total Employed	21,625	21,859	1.1
Employed in Columbia County	9,330	9564	2.5
Employed in Clatskanie	700	934	33

*Year 2000 Census data, and information provided by David Evans and Associates.

- Payrolls. Estimates of payrolls from anticipated new jobs depends on many factors including types of jobs, company benefits such as health insurance, local labor markets, information provided by companies and many economic indicators. Department staff have made estimates based on available census and Oregon Labor Department data, and information submitted by the Port's consultants pertaining to types of jobs.

  The new construction job payrolls are expected to range from about $40,000 to $75,000 annually. This is based on estimates of hourly wages ranging from $15 per hour to close to $30 per hour, plus fringe benefits such as health insurance. This estimate would result in estimated payrolls of $63 million to $118 million. A substantial amount of this payroll would be spent in businesses in northern Columbia County

  The estimated 123 new positions will result in additional payrolls available for spending in Columbia County. The average annual Columbia County payroll, based on census and Oregon Department of Labor data, is $29,054. The Department staff evaluated all payroll information submitted by the consultant plus available census data and Oregon Labor Department data and estimated a payroll of $8.1 million with an average payroll of $66,000.

  A payroll of $8.1 million or higher would have a positive impact on Columbia County businesses. Because business spending generates additional spending there would be a business multiplier effect. The business multiplier is estimated to 1.37 times each dollar spent in Columbia County businesses. This would result in additional new jobs and increased payrolls. The ultimate payroll and spending impact is estimated to be about $11.1 million.

Project Costs.
In the context of benefits compared with costs, the relevant costs include lowering of water quality, higher cost of a proposed alternative relative to other alternatives evaluated, environmental impacts of the proposed system compared to other alternatives, and loss of assimilative capacity. These critical cost components are reviewed below.

Lowering of water quality. The proposed system will result in no lowering of water quality for the water quality limited parameters. However, temperature remains a critical issue. Any discharge has the theoretical potential to impair use.

Cost of proposed system compared to other alternatives. The proposed system, the proposed system with modifications, and five alternatives were reviewed in section 22. Based this review it is concluded the proposed system with the addition of a heat exchanger and mitigation is the most cost effective treatment system. The costs for the alternative systems range from 2.4 to 87.2 times more expensive than the proposed system over the expected 40 year life of the facilities.

Environmental impact of proposed system compared to other alternatives. The proposed system with the addition of a heat exchanger and mitigation is the most environmentally sound treatment system, has negligible to no impact in the Columbia River, has no impact on other environmental media, and results in a net environmental gain, that is, the thermal load to the lower Columbia River would actually be reduced.

The proposed system with mitigation meets all requirements in the Department's antidegradation guidance. There will be no lowering of water quality, water quality standards will be met, and beneficial uses will be protected. The proposed system is consistent with Commission policy on temperature, best management practices, mitigation and reversing the warming trend in water quality limited streams.

The alternative systems cannot meet the combination of no impact to the Columbia River, no impact on other environmental media and a net environmental gain.

Loss of assimilative capacity. The proposed system has virtually no impact on the assimilative capacity of the Columbia River, consequently there is no cost impact.

Conclusions.
- The same socioeconomic benefits that are gained from the proposed project cannot be achieved by use of an alternative. The proposed project will result in substantial net economic benefits to northern Columbia County and it is cost effective relative to the alternatives.

- The economic benefits of lowering water quality outweigh the environmental costs. The proposed project does not lower water quality and the project does not incur environmental costs.

- The economic benefits of the proposed project are greater than the costs associated with lost assimilative capacity. The economic benefits to northern Columbia County are substantial. There is an economic benefit associated with selection of the most cost effective system. There is an economic benefit associated with net environmental gain. There is no lost assimilative capacity in the Columbia River.

24. Based on the Antidegradation review, the Department makes the following specific findings for EQC consideration:

- The proposed system meets the requirements of OAR340-041-0026 (3)(a)(A). "The new or increased discharged load would not cause water quality standards to be violated."
- The proposed system meets the requirements of OAR 340-41-0026 (3) (a) (B). "The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial use."
- The proposed system meets the requirements for water bodies water-quality limited for temperature as specified under OAR 340-041-0026 (3)(a)(D) and (F) of the Water Quality Limited Waters Policy.
- The proposed system meets the requirements for water bodies designated water-quality limited for bacteria as specified under OAR 340-041-0026(3)(a)(I) of the water quality limited waters policy.
- The proposed system, as an essential component of the Port Westward development, will have a very positive and permanent impact on the Columbia County economy, particularly the economy in northern Columbia County.
- The proposed system, including a heat exchanger and with mitigation, is the most cost effective and environmentally sound system evaluated, and it is the one system that will produce a net benefit to the environment.
- The proposed system meet the requirements of OAR 340-041-0026(3)(b)(A) Environmental Effects Criteria and (B) Economic Effects Criteria.

On the basis of the Antidegradation review, including the specific findings enumerated above, the following is recommended:

__X__ Proceed with Application to Interagency Coordination and Public Comment Phase.

Action Approved

Section:	Water Quality Source Control Section
Review Prepared By:	Thomas J Lucas
Phone:	503-229-5273
Date Prepared:	October 10, 2002.

State of Oregon
Department of Environmental Quality Memorandum

Date: 12 January 2003

To: Port of St. Helens, File #111746

From: Elliot Zais, Senior Environmental Engineer
NWR, Source Control Section, 503/229-5292

Subject: Response to Comments for Port of St. Helens Port Westward NPDES Permit

I. INTRODUCTION

The Department held a public hearing in Clatskanie on 18 November 2002. The Public Notice for the hearing is attached to this document. Comments were received on both the anti-degration findings and the proposed permit. Five people spoke in favor of the proposed permit and positive anti-degradation findings. One person representing the Columbia Riverkeeper raised several technical and legal concerns. In addition, the Department received extensive written comment during the comment period.

The Commission is being asked by the Department to make anti-degradation findings for the proposed Port of St. Helens wastewater facility discharge. The purpose of this report is to summarize the comments presented to the Department regarding the anti-degradation findings and the proposed permit and to present the Department's responses to support the Commission's findings and the Department's changes in the draft permit. This report is organized in such a way as to provide the Commission a summary of the comment received on each anti-degradation finding followed by the Department's detailed response. Next, the report will provide a general summary of the comments received on the draft permit followed by the Department's general response. Finally, the report will provide the written comments received on the draft permit.

II. ANTI-DEGRADATION

In order for the Department to proceed with a permit, the Commission must make the specific anti-degradation findings contained in OAR 340-041-0026(3)(a) as described below. The new discharge load:

(A) Will not cause water quality standards to be violated;
(B) Will not unacceptably threaten or impair any recognized beneficial use;
(C) Does not generate increased pollutant loads related to the water quality limited status of the Columbia River;

(D)-(H) Meets specific rules for when a proposed new thermal load can be allowed to a stream water quality limited for temperature;
(I) Meets the requirements for bacteria management plans; and
(J) Is consistent with land use law.

The anti-degradation policy further recognizes that unused assimilative capacity is a valuable resource. In addition to the findings above, the Commission must consider specific environmental and economic effects criteria (OAR 340-041-0026(3)(b)(A-B).

When the Department started the review of the proposed permit the Columbia River was water quality limited for dissolved oxygen, pH, total dissolved gas, arsenic, DDT/DDE, PCBs, dioxin, temperature, and bacteria. The Department has since completed an update of the 303d list defining what parameters the river is water quality limited for and submitted the list to USEPA. EPA has not completed their review of the 303(d) list. The new list for the stream segment around Port Westward includes arsenic, DDE, PCBs, and temperature. The river remains water quality limited for TDG and dioxin although these parameters are not on the 303(d) since total maximum daily loads (TMDLs) have been established. The anti-degradation rules are directly related to the water quality limited status of the river. Many of the comments received were related to the findings of water quality limited status in section C and for temperature in sections D through H of the rules. The issues are summarized as they are related to specific sections of the rule.

1. Comments Regarding Anti-degradation finding OAR 340-041-0026(3)(a)(A)

The rule states that, "The new or increased discharged load would not cause water quality standards to be violated".

Comments:

Nina Bell of Northwest Environmental Advocates (NWEA) cited a NOAA document which concluded that NOAA cannot fully evaluate the individual and additive effects of multiple toxic pollutants on salmonids and concluded that the Department cannot as well. NWEA also noted concern with the influence of low dissolved oxygen on the toxicity of pollutants. The commenter (Bell) also stated that "the Department must use current information (i.e. of numerous studies) on sub-lethal effects of toxic contaminants on human and wildlife health" and that "the Department has an obligation to apply the results of all of them." Comments questioned the possibility of synergism of multiple toxics and the possible creation of chlorinated organics. Comments concluded that the Department cannot find that the proposed discharge complies with the narrative standard for toxics.

Department's Response:

The NOAA document cited by NWEA is a Preliminary Natural Resource Survey, Findings of Fact, Lower Willamette River. The reach of concern in this survey is from RM 3.5 to RM 6.5, which is called Portland Harbor. The Department agrees that we have not done a more complete evaluation of the individual and additive effects of multiple toxic pollutants on salmonids than NOAA. However, we have carefully looked at water quality data and have found nothing to indicate that the proposed facility's discharge has a reasonable potential to cause further impairment of beneficial uses. Decisions must be made based on the current state of knowledge with cautiously selected margins of safety.

We do not have evidence that there will be any high or even moderate concentrations of multiple toxics in the proposed mixing zone nor that there will be any substantive synergistic toxic effects of concern. A possible permit monitoring requirement to test for such effects would be Whole Effluent Toxicity (WET) testing. However, the information presented in the permit application, comments, and reports does not support a requirement for WET testing. Chlorinated organics could conceivably be formed, but there is no evidence that they will be to any extent that would violate water quality standards. Furthermore, the proposed concentration of chlorine discharged will be low, so any compounds formed would also be at low concentration. The concentrations of oxygen are not below standards. There does not appear to be a reason to believe that increased toxicity due to low oxygen will cause impairment or violate the narrative standard. Therefore the Department disagrees that the narrative toxic criteria will be violated.

2. <u>Comments regarding Anti-degradation finding OAR 340-041-0026(3)(a)(B)</u>

This rule states that the Commission must find that, "The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial uses."

Comments:

Many of the commenters were concerned about threatening or impairing beneficial uses by allowing the discharge of heated water and by allowing the discharge of toxics. Much emphasis was placed on the 68 °F temperature criterion as not being sufficiently protective of salmonids. Brent Foster of the Columbia Riverkeeper asked why temperature limits were not required for June and October when the river exceeds 64°F. Several comments suggested that 64°F was more protective for salmonids rearing than the 68°F criteria. Another commenter (Bell) stated that the Department has not identified uses and made finding concerning the protection of "all existing beneficial uses." In a similar comment Bell also questioned if the outfall was placed in cold water refugia and whether the discharge would impair the biological integrity of threatened and endangered salmonids. Foster stated that the Department appears to assert in the permit evaluation report that it does not have a responsibility to consider whether the permit will actually protect beneficial uses independent of ensuring compliance with numeric temperature standards.

Other commenters noted that substantial scientific information has been presented by the project consultants and reviewed by the Department to show the potential impacts are negligible.

Department's Response:

The Department disagrees that we did not assess whether beneficial uses would be protected. We believe we addressed protection of uses through evaluation of near and farfield impacts. The standards and beneficial uses for this section of river are well documented, appropriately, in existing administrative rules. The Department analyses, and those of the consultants, are cited in the permit evaluation report. These analyses describe the potential impact on uses and were available during the public comment period.

The Department does not believe that the discharge will threaten or impact beneficial uses. The Department's review summarizes and cites the scientific literature used to evaluate the potential impact of the discharge to fish and aquatic life. The Department's conclusion after extensive analysis of this information is that beneficial uses will not be threatened or impaired.

The Department reviewed and applied several metrics and endpoints for the impact on fish related to the temperature discharge. For the conditions where a salmonid may encounter hot water in a mixing zone, the Department evaluated the potential for thermal shock in addition to more chronic exposure thresholds. We evaluated the impact of location of the discharge and size of the mixing zone on salmonids at various life stages. These evaluations are presented in the Permit Evaluation Report and supporting documents. The Departments analysis as presented in the fish literature review (Attachment F, EQC, January 30-31, 2003, Agenda Item G). demonstrated that that the outfall will not impair cold water refugia or impair threatened and endangered species. No information has been presented to indicate that the analyses and conclusions are inappropriate.

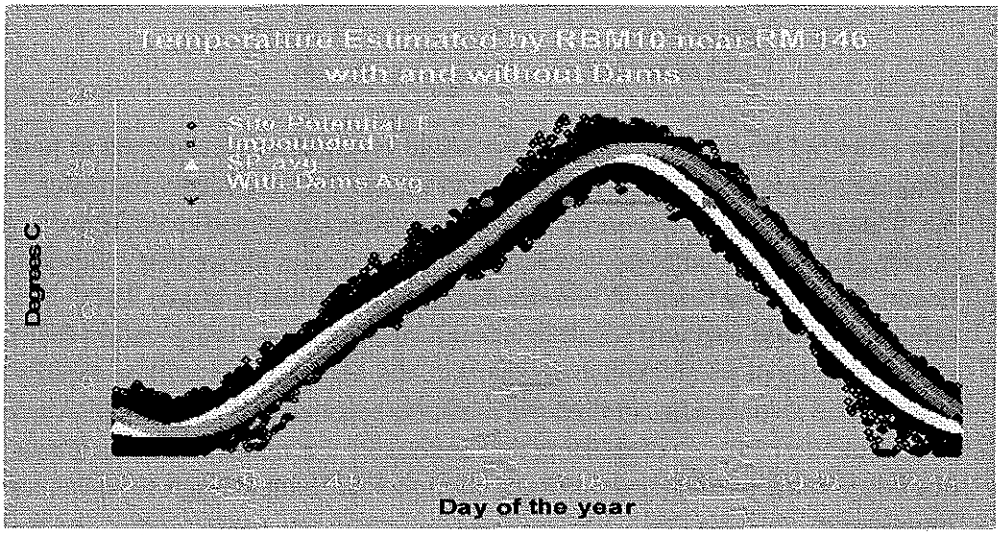
The Department specifically reviewed the potential effects of acute exposure to thermal discharge. Acute response is a function of temperature change, time of exposure, acclimation temperature, and many other factors. The USEPA Region 10 in their draft EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards (October 10, 2002, 2nd Public Review Draft) suggests that mixing zones could be limited such that salmonids are not exposed for more than 10 seconds to 32 °C which can cause lethality, as shown in the table below from McCullough (Issue Paper 5, EPA-910-D-01-005, May 2001). The table shows time to 50 percent lethality as a function of temperature. Based on an extensive literature review, we based our assessment on a more conservative endpoint of equilibrium loss which has been called "ecological death.". Acute response is often identified with the LC_{50} value which is the lowest concentration where 50 percent of the subjects die or the incipient lethal concentration where individuals start to die. Although the LC_{50} is equivalent to the acute toxicity, the Department believes it more appropriate to apply a more sensitive endpoint where equilibrium loss may result in predation or other forms of mortality. This could take place in several seconds at 30 °C to fish acclimated at 64 °F depending on the factors above. Coutant, cited in the Department's literature review, used a dose-response approach for thermal effects on fish and noted a 2 °C margin of safety between ecological death and observed death.

Time to LT_{50}, (Acclimated < 12°C)	Temperature, °C
1 second	34.32
30 seconds	30.42
1 minute	29.62
60 minutes	24.99
120 minutes	24.2

The potential impact of a thermal discharge on aquatic life depends in part on the effluent temperature and how rapidly the effluent mixes with the receiving water. The Port has proposed 32 °C as a maximum discharge temperature when averaged over 2 hours. On rare occasions, the power generating plants may experience an excursion above that temperature. If such excursions occur, they will be brief. When discharge from a plant is above 32 °C, it will be mixed with other discharges and will result in a combined discharge temperature that is much lower than that of the individual plant. When discharged, the heated water will be rapidly mixed with river water. The Department applied the methods recommended by USEPA mixing zone guidance to determine that aquatic organisms that encounter the heated water as it mixes in the plume will not be exposed to temperatures high enough for a long enough time to result in risk of impairment.

Plant operations would also act to reduce the risk of elevated temperature. At the PGE Port Westward generating plant, if the cooling tower temperatures were to become elevated, there would be a corresponding backing down of load (power generation). It is a typical summer time operation of a plant cooled by a cooling tower to lower its power level and thus its heat load to maintain proper vacuum in its condenser. If the rise in temperature is not handled by lowering load, the plant will automatically trip to shut down in order to remove the heat source going to the cooling tower. Failure of the cooling tower (fans or pumps failing) will cause the same trip. Moreover, the cooling tower blowdown goes to the settling ponds (one million gallons) prior to discharge, so an instantaneous overheated discharge to the Port system is not expected to occur. The Summit Westward plant will operate in much the same fashion. The Cascade Grain (C-G) plant is not expected to have any significant instantaneous spikes, because their outfall temperature is directly tied to outside temperature. Since C-G will operate continuously, its discharge temperatures are expected to be very stable. The addition of a influent/effluent heat exchanger would also act to reduce thermal peaks and reduce effluent variability.

The permit will require that the thermal limits be achieved and the heat exchangers operated when the river temperature is greater than 64 °F. This modification will not require significant additional operational cost. The time period for application of thermal limits was derived for periods when the river exceeded the 68 °F criterion. There will be periods when the river exceeds 64°F but is below the water quality criteria of 68°F. From historical and simulated data the river can be expected to go above 64 °F sometime between early June (9th) and mid July (15th). The river may remain above 64 °F until mid September (13th) or early October (6th). The discharge should not have any problem achieving the thermal wasteload allocations during the months of June and October as well. Additionally, operation of the heat exchanger will be expected to significantly cool effluent temperature. The heat exchangers need maintenance which may limit continued operation. The permit will require the operation of the heat exchangers from June 1 through October 15.



The Department's analysis was not dependent upon an assumption that 68 °F would protect against all impairment thresholds as implied by Foster's statement in his section on Heat Discharges. The analysis reviewed substantive scientific literature relating heat exposure to use protection. The analysis recognized that the Columbia River near the outfall would be expected to exceed 68°F at times during the summer, that warm temperature may occur in the mixing zone, and that substantive scientific literature is available for evaluating the impact of temperature on fish and aquatic life. The Department's permit review documents, the technical documents for the development of the temperature standard, and other documents summarize available scientific literature and the impairment thresholds for salmonids that occur above 64 °F. However, the state water quality temperature criterion for the Columbia River is 68 °F. This criterion was not changed during the last triennial standards review. Therefore, the Department applied 68 °F as the applicable criterion. Neither the 64 °F or the 68 °F 7-day maximum criteria would be achievable in the Columbia River. The USEPA draft TMDLs present the most comprehensive evaluation of the temperature regime in the Columbia River. Under conditions of "site potential" without human influence the Columbia River would be expected to at times exceed both the 64 °F and the 68 °F criteria. Temperatures during the spring and summer would be expected to be similar to the currently observed temperatures. The Department's review of the potential impact of this thermal load on fish is described in part in our internal document, Literature Review

of Potential Impact of Thermal Discharge on Salmonid Use developed as part of the permit evaluation.

The Department did not intend to imply that we do not have a responsibility to protect beneficial uses. Indeed, one of the explicit goals of the anti-degradation policy is to protect beneficial uses. Explicit in our anti-degradation policy is the guidance that the Commission may rely upon the presumption that if the numeric criteria established to protect the beneficial uses are met, then the beneficial uses they were designed to protect are protected. Clearly the Department went beyond that presumption in this review, as is appropriate.

No data or information has been provided showing that the proposed discharge would impair a beneficial use.

3. Comments regarding Anti-degradation Finding OAR 340-041-0026(3)(a)(C)

This rule states that "The new or increased discharged load shall not be granted if the receiving stream is classified as water quality limited under OAR 340-041-0006(30)(a) unless

(i) The pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to violate water quality standards and being designated water quality limited; or

(ii) Total maximum daily loads (TMDLs), waste load allocations (WLAs) load allocations (LAs), and the reserve capacity have been established for the water quality limited receiving stream; and compliance plans under which enforcement action can be taken have been established; and there will be sufficient reserve capacity to assimilate the increased load under the established TMDL at the time of discharge; or

(iii) Effective July 1, 1996, in waterbodies designated water-quality limited for dissolved oxygen, when establishing WLAs under a TMDL for waterbodies meeting the conditions defined in this rule, the Department may at its discretion provide an allowance for WLAs calculated to result in no measurable reduction of dissolved oxygen. For this purpose, "no measurable reduction" is defined as no more than 0.10 mg/L for a single source and no more than 0.20 mg/L for all anthropogenic activities that influence the water quality limited segment. The allowance applies for surface water DO criteria and for Intergravel DO if a determination is made that the conditions are natural. The allowance for WLAs would apply only to surface water 30-day and seven-day means, and the IGDO action level; or

(iv) Under extraordinary circumstances to solve an existing, immediate, and critical environmental problem that the Commission or Department may consider a waste load increase for an existing source on a receiving stream designated water quality limited under OAR 340-041-0006(30)(a) during the period between the establishment of TMDLs, WLAs and LAs and their achievement based on the following conditions:

(I) That TMDLs, WLAs and LAs have been set; and

(II) That a compliance plan under which enforcement actions can be taken has been established and is being implemented on schedule; and

(III) That an evaluation of the requested increased load shows that this increment of load will not have an unacceptable temporary or permanent adverse effect on beneficial uses; and

(IV) That any waste load increase granted under subparagraph (iv) of this paragraph is temporary and does not extend beyond the TMDL compliance deadline established for the waterbody. If this action will result in a permanent load increase, the action has to comply with sub-paragraphs (i) or (ii) of this paragraph.

Comments:

Three commenters (Bell, Foster, and Evan Fidis representing himself) raised this issue asserting that none of the four circumstances apply because:

i. The pollutant parameters associated with the proposed discharge are related directly to the parameter causing the receiving stream to be designated as water quality limited;
ii. A TMDL has not yet been established for the Columbia River;
iii. A TMDL has not been established so the Department can't establish a WLA to protect DO;
iv. No extraordinary circumstances exist.

Bell stated that "The proposed permit will contribute to violations of dioxin exceedances because dioxins could be created from the chlorine in the proposed discharge."

Foster expressed a concern about allowing a discharge which would cause a significant increase in toxics in the river. He was also concerned about the ability of fish to swim through chlorine plumes safely and asked what scientific evidence the Department used to show that they could.

Several commenters suggest that the anti-degradation rules preclude a new thermal discharge to a water quality limited stream.

Department's Response:

The proposed discharge was evaluated relative to the water quality limited status of the Columbia River at the time the review started. The Columbia was water quality limited for bacteria, dissolved oxygen, pH, temperature, total dissolved gas, DDE and DDT, arsenic, PCBs, and dioxin. The proposed discharge is not expected to have any bacteria load. The discharge will be in deep water and would not contribute to excess dissolved gas, so total dissolved gas will not be an issue. Dissolved oxygen, pH, temperature, and toxics (DDT/DDE Arsenic and dioxin) will be discussed in turn.

Dissolved oxygen. The Columbia River near the discharge meets the State's dissolved oxygen standards and the Department has taken dissolved oxygen off of the new 303(d) list for this portion of the Columbia River. Even as such, the proposed discharge has no reasonable potential to cause or contribute to DO violations or concentration reduction.

The Columbia River in the vicinity of Clatskanie, Oregon is not expected to violate the cold-water minimum dissolved oxygen (DO) water quality criterion of 8.0 mg/l protective of cold species fish rearing. According to the Department's review, salmonids can be expected to rear in the Columbia all year. Because oxygen concentration is dependent on temperature the critical period for compliance with this criterion is warm weather, low flow conditions occurring in the mid-July to mid-September period. A survey of known observed data shows that two stations have routinely collected DO measurements within the Columbia River near Clatskanie: Columbia River at Beaver Army Terminal (USGS Station 14246900, monthly since 1990) and Ambient site near Cathlamet Buoy #41 (ODEQ 23800, every two months since 9/2000). Based on observed data, substantive assimilative capacity for oxygen consuming wastes exists in the Columbia River within this segment. The USGS station reports no values below DO < 8.0 mg/L out of 258 observations, and the DEQ station reports no violations out of 9 observations. In addition, several DEQ CEMAP profiles of DO collected during late summer/early fall in the Columbia River near Clatskanie showed no violations of the minimum DO criterion.

The Port Westward facility's discharge will not have a substantive load of oxygen demanding waste. An analysis performed by the applicant shows that for this discharge to result in a measurable drop in oxygen, the dilution would need to be less than 46. The drop would occur after 2.7 days. The actual dilution is many thousands of times greater than this. The Department believes that there is no reasonable potential for the dissolved oxygen water quality criteria to be violated by the proposed discharge.

Dissolved oxygen in backwater and embayed portions of the Columbia River near Clatskanie may periodically fall below the cold water minimum criterion during critical summertime conditions. These excursions are not believed to influence dissolved oxygen concentrations in the main channel of the Columbia River or BOD loads carried by the river where mixing velocities (and thus mechanical reaeration rates) are greater and sediment oxygen demand and wind sheltering is reduced. In addition, a discharge of a thermal load that does not appreciably affect far-field temperature in this waterbody is also not expected to influence far-field DO concentrations in this waterbody.

pH. Available data show that the river does not violate water quality standards for pH near the outfall. The proposed discharge will not result in a change in pH, based on carbonate equilibrium calculations. The discharge has no reasonable potential to cause or contribute to pH standard violations. However, the permit will require that the basin standard 6.5 – 8.5 be met at the end of pipe, until such time as USEPA approves the listing changes.

Toxics. No information has been presented that would suggest the proposed discharge would cause a violation of the narrative toxic criteria.

The discharge will not add any listed toxic pollutant load to the Columbia River. The toxic compounds in the effluent are not from the outside world as described by EPA, but are from the same water body to which they will be returned. The discharge does not significantly change the form or impact of these pollutants or create a load increase subject to anti-degradation review. A load increase would cause the anti-degradation rules to apply. The potential for concentration occurs due to evaporation of some of the water in the cooling towers. However, the proposed discharge has no potential to interfere with the attainment or maintenance of water quality standards and protection of beneficial uses. No reasonable potential exists to cause chronic or acute toxicity outside the mixing zone or zone of immediate dilution respectively.

The Department has performed a reasonable potential analysis using information supplied by the applicant and ambient data for the Columbia River collected by the USGS. The applicant supplied the following estimates for maximum effluent concentrations for metals. These effluent concentrations were used to determine the reasonable potential for exceedances of chronic or acute water quality criteria. The Table 20 fresh chronic values are in parentheses. The Table 20 values have been adjusted to account for water hardness. Zinc – 20 µg/L (63 µg/L), mercury – 0.5 µg/L (0.012 µg/L), cadmium – 10 µg/L (0.7 µg/L), lead – 10 µg/L (1.5 µg/L), copper – 15 µg/L (7 µg/L). Zinc meets the chronic standard at the end of the pipe. The other metals easily meet the chronic standard at the edge of the proposed regulatory mixing zone. A mixing zone has been established in the schedule A of the permit. Zinc meets the chronic standard in the effluent. The remaining parameters easily meet criteria at the edge of the mixing zone.

No arsenic, PCBs or pesticides will be used in the industrial processes at this facility. However, the Department assessed the potential for standards violations. The effluent concentrations of arsenic, PCBs, and pesticides could be as much as seven times the ambient river concentrations because some water is evaporated during passage through the facilities. Ambient concentrations for arsenic range from non-detect to about the detection level of 1 µg/L. See the table below for ambient concentrations from monitoring done at the USGS water quality station, "14246900" at the Beaver Army Terminal near Quincy in the immediate vicinity of the Port Westward project.

Beaver Army Terminal Data – Columbia River	
Parameter	Average Concentration
As (dissolved)	< 1 ug/l (0.8 µg/L Uncensored data)
Ba (dissolved)	18.36 µg/L
Cd (dissolved)	< 1 µg/L
Cr (dissolved)	< 5 µg/L
Cu (dissolved)	c. 2 µg/L
Fe (dissolved)	25.54 µg/L
Pb (dissolved)	< 1 µg/L
Ni (dissolved)	< 1 µg/L
Zn (dissolved)	2.19 µg/L
Hardness = 4.039x50.045/12.2 + 14.43x50.045/20=52.68 mg/L	
Dieldrin (dissolved)	<0.001 µg/L
Dieldrin (total)	<0.0015 µg/L average of 2 samples

DDE (total)	<0.0015 µg/L average of 2 samples
DDT (unfiltered, recoverable)	<0.0015 µg/L average of 2 samples
PCB (total)	<0.0015 µg/L average of 2 samples

The values in the table for arsenic, PCB, and pesticides were multiplied by seven and compared below with the Table 20 fresh chronic values in parentheses. Arsenic 5.6 µg/L (48 µg/L for As^{v} and 190 µg/L for As^{iii}), PCB 0.0105 µg/L (0.014 µg/L), DDT 0.0105 µg/L (0.001 µg/L), DDE 0.0105 (1050 µg/L fresh acute lowest observed effect level) , dieldrin 0.0105 µg/L (0.0019 µg/L). Where data is below detection levels, the detection level was used. Actual concentrations would be less. The Department's assessment is conservative because typically, one-half of the detection level is used for reasonable potential analyses. A reasonable potential analysis was done to see if there is reason to believe that water quality standards will be violated. The amount of dilution available in the mixing zone and zone of initial dilution assures that all chronic and acute standards will be met in the mixing zone and the zone of initial dilution, respectively.

The Department evaluated the potential impact of toxics which will be concentrated by evaporation. For background concentrations in the Columbia data from the USGS water quality station were used. The Department performed a material balance calculation to determine the potential effects of these toxics in the effluent stream on concentrations in the river relative to the human health criteria. We concluded that the effect of any of these pollutants from the discharge is negligible in comparison to the concentrations already in the river or relative to water quality standards or risk to beneficial uses. The proposed facility plans to obtain some of their cooling water from an onsite Ranney well which draws river water from a collector beneath the river. Water from the Ranney well may have lower concentrations than water from the river making the Departments assessment presented in the permit evaluation report conservative. The Department believes that any potential increase in concentration would not influence the ability of any control plan to attain standards.

The NWEA suggested that chlorine used could create dioxins. The Columbia River has a TMDL for 2,3,7,8-TCDD (dioxin). The Department disagrees with Bell's statements pertaining to dioxins. Dioxins are produced by the incomplete combustion of organic material, e.g., domestic incineration and combustion processes. They may also be formed during the chlorine bleaching process used by pulp and paper mills. They also occur as a contaminant in the manufacturing process of certain chlorinated organic chemicals. The Department knows of no mechanism by which the chlorine in the proposed discharge could be converted into dioxin. No information was presented to substantiate a different understanding.

The Department has not chosen to ignore available information as suggested by one of the commenters. We used available information and our best judgment to make decisions. The Department is not required "to apply the results of all of them." That is an unreasonable and impossible burden. The Department has used current information to make judgments. The concerns raised about PAH, pesticides, PCBs, and dioxins are not substantively related to the proposed discharge. The proposed discharge will not be adding any of these contaminants. They already exist in the river water. They will be concentrated as the facilities draw water from the river

and evaporate some of it. In the mixing zone the discharge will be diluted and the concentrations will decrease again until they are indistinguishable from background concentrations. It is very unlikely that they will cause any further impairment of beneficial uses. Chlorine and heat will be added to the discharge by the facilities.

Foster presumed that "The proposed permit would not only increase heat discharges into what is already a severely overheated system, but it would additionally significantly concentrate a host of hazardous pollutants including DDE, DDT, and PCBs which already exceed water quality standards." He questioned whether the Department could circumvent the anti-degradation analysis by simply making a big mixing zone. The Department believes the presumption of a significant increase or significant concentration is wrong and is addressed in the paragraph above. The Department does agree that it would not be appropriate to establish a large mixing zone to circumvent anti-degradation findings. The mixing zone is established based on state rules along with federal guidance. Within the mixing zone, we must show negligible impact on beneficial uses. We believe that we have. As part of the anti-degradation analysis we must show compliance with mixing zone standards as well as all other standards including showing that beneficial uses are protected.

The question raised about an apparent presumption of maximum swimming speed related to movement of organisms through the mixing zone appears erroneous. We did not rely on any assumptions of maximum swimming speed. In response to questions about the scientific information regarding fish response to chlorine it is discussed in the literature review including the citations for several specific papers including:

Cherry D.S., S.R. Larrick, J.D. Giattina, J.Cairns Jr., and J.V. Hassel. 1982. Influence of Temperature Selection Upon the Chlorine Avoidance of Cold-Water and Warmwater Fishes. Can. J. Fish. Aquat. Sci. 39:162-173.

Giattina J.D., Cherry, D.S., Cairns J. Jr., and S.R. Larrick. 1981. Comparison of Laboratory and Field Avoidance Behavior of Fish in Heated Chlorinated Water

Meldrim J.W., J.J Gift, and B.R. Petrosky. 1974. The Effect of Temperature and Chemical Pollutants on the Behavior of Several Estuarine Organisms. Ichtyological Associates.

Sprague, J.R. and D.E. Drury. 1969. Avoidance Reactions of Salmonid Fish to Representative Pollutants in Advances in Water Pollution Research, Pergamon Press, New York.

Our assessment on the potential for chlorine to impair beneficial uses was based in part on the drifting organism method recommended by the USEPA's Technical Support Document. The dose response of exposure to chlorine was based on the current State Standard, the USEPA ambient water quality criteria document for chlorine 1984, and the Ministry of Environment, Province of British Columbia, ambient water quality criteria for chlorine (1989).

Temperature. The Department believes that the permit requirements, temperature effluent limits, the preparation and implementation of a Temperature Management Plan, and the granting of a

reasonable mixing zone are consistent with and assure compliance with temperature water quality standards. OAR 340-041-0026(3)(a)(D-H) provides specific rules and standards for thermal discharges to streams that are water quality limited for temperature. The only way to read sections D through H of the rule and for them to have any meaning is that the more explicit rules, rather than the general rules, are controlling. The proposed thermal discharge complies with the requirements of D-H including the requirement for no measurable increase in temperature at the edge of the regulatory mixing zone. Temperature is further discussed below.

4. Comments regarding Anti-degradation Finding OAR 340-041-0026(3)(a)(D-F)

This section of the rules describes the specific procedures and conditions for allowing new or increased thermal discharges into water quality limited streams. The requirements of these rules are also used to assure other temperature policies are implemented including the development and implementation of temperature management plans, mitigation, and reversal of the warming trend.

Comments:

Two commenters raised objections about the proposed Temperature Management Plan (TMP). One commenter (Foster) questioned whether permit terms could be called a TMP. Another commenter (Bell) stated that the Department had waived certain requirements and has not yet prepared a TMP for the Columbia Basin and therefore could not make a finding about the impact of the proposed discharge on temperature in the basin.

One commenter (Foster) stated that water quality standards would be violated because the permit would allow the addition of heat to a river that already exceeds numeric criteria. Foster also raised several questions about mitigation ranging from how can permitting the addition of heat to the Columbia River aid the reversal of the warming trend caused by anthropogenic activities to what happens if the mitigation doesn't accomplish what it was intended to do.

Commenters raised questions about mixing zones. They stated that the Department could not allow mixing zones in water quality limited streams and that the proposed discharge could not meet all water criteria at the edge of a mixing zone.

Another commenter (Fidis) stated that the Department should wait until EPA issues a draft TMDL before proceeding with this permit. The federal regulations do not allow a new source to a 303(d) listed stream until a TMDL is complete and implementation plan in place. He further said that EPA is working on the TMDL and the Department cannot be certain when the TMDL will be done.

Department's Response:

TMDL Issues. Existing policy, OAR 340-041-0026(3)(a)(D-F), on how to permit new thermal discharges to a water quality limited stream prior to the issuance of a TMDL has been applied. There is no substantive benefit to waiting until the TMDL is complete. This source will have no

measurable influence on the instream temperature outside the mixing zone, or affect the ability of the TMDL to meet the numeric criteria, or influence the distribution of WLAs for existing or future sources.

The Department has done extensive evaluation on the potential impact of point source discharges on the Columbia River temperature. The draft EPA TMDL is consistent with this analysis. These discharges, as well as all other NPDES thermal discharges to the Columbia River, do not result in a measurable increase in temperature. The current draft TMDL waste load allocations include the proposed discharge, a margin of safety, and an allocation for future growth and development. The proposed discharge will not influence any upstream or downstream waste load allocations. There is absolutely no reason to believe that this discharge will conflict with or impair the ability of a temperature management plan to achieve numeric temperature criteria.

Temperature Management Plans. The applicant submitted a Temperature Management Plan with the permit application documents. Parts of the Temperature Management Plan are put directly into the permit to ensure the Temperature Management Plan is implemented. The Mitigation Plan and Mitigation Agreement required by the permit must be approved as part of the TMP. Upon approval they will become part of the TMP and be incorporated into the permit. The Department believes that applicable parts of the TMP should be enforceable and are therefore incorporated into the permit. This approach is consistent with OAR 340-041-0026(3)(a)(D).

The Department has not waived any TMP requirements. Although OAR 340-41-0026(3)(a)(D)(iv) does not require that a separate TMP document be prepared, the Department believes it is appropriate that a separate TMP be developed. The separate TMP can provide substantial detail not directly included in the permit. Sections of the TMP can be incorporated in an NPDES permit to assure an appropriate regulatory response if needed. In fact, the applicant prepared and submitted a Temperature Management Plan which will be revised prior to the January 2003 EQC meeting to incorporate issues raised during the public comment period. The draft permit did not postpone the development of a TMP. The permit stated "Upon approval by DEQ these documents shall become part of an updated Temperature Management Plan (TMP)." The documents referred to are the Mitigation Plan and Mitigation Agreement.

Mitigation Plans. The permit will include requirements for mitigation. The mitigation will be the mechanism by which this source contributes to a reversal of the warming trend. The permit requires the installation and operation of influent/effluent heat exchangers that will significantly reduce and possibly eliminate any excess heat load. The discharge temperature may be below ambient or site potential. To the extent there is a permitted excess heat load, the permit requires that load to be entirely offset by a mitigation project.

Once the mitigation matures, the Department expects the mitigation project will achieve greater heat reductions than the excess heat discharged by the facilities. The Department will require conservative assumptions in calculating the amount of heat estimated to be reduced by the mitigation project. Actual discharges are routinely below permitted levels providing another margin of safety. Therefore, the actual heat reduction should be greater than the amount estimated. The permit will require funding and contractual commitment to a mitigation project

with a 40-year life based on the assumption that the permittee will discharge heat at full operating levels through the life of the underlying projects. Actual operation of the projects, however, is unlikely to be maintained at this high level and, therefore, less heat will be discharged than will be mitigated.

The Department's intent is to ensure that the net excess heat that could be discharged under the permit for 40 years was equivalent to the net heat that needed to be mitigated over 40 years. The reason for a time period was, in part, to recognize that it takes time for trees to grow. During the initial years, as the riparian trees grew, the mitigation would not offset the excess heat load. As the trees matured, the mitigation would exceed the amount of excess energy discharged. Overall the mitigation will remove greater energy than discharged. The analysis used to develop shade mitigation will be publicly available as will the verification data.

The period of 40 years was selected based in part on the expected life of the Port projects of 25 to 40 years. The permit will allow the permittee to use the mitigation project as mitigation under permit renewals, but only as long as the mitigation project is maintained. Summit's expected lifetime is 25 years. The permit allows the discharge of heat only for its term of five years. Arguably, the permittee should be required to mitigate only the amount of heat load to be discharged under this permit. This approach, however, would require that additional mitigation projects be implemented for each renewal term of the permit. The Department believes that a single substantial mitigation project will provide greater benefits than multiple small projects for each permit term. The Department also believes that reviewing and approving a single project will reduce the Department's burden in permit administration over the life of the plants.

The permit requires monitoring to confirm implementation of the Mitigation Plan in accordance with its terms. The plan will specify the parameters to be monitored, which shall include a biologist's assessment of plant growth rate and survival. As discussed below, the permit also requires that the mitigation plan include provisions for maintenance and replacement of plants if survival or growth rates are not what was estimated.

Concerns were raised with the lack of specific requirements for temperature mitigation and why only a 1:1 mitigation was required. Commenters believed that the mitigation requirements the Department proposed lacked clarity. The rules describing the temperature management plan provide the opportunity for mitigation of excess thermal load. There is, however, no specific guidance on how to derive the appropriate level of mitigation.

The methods for calculating the amount of energy blocked are well defined. However, the results of these methods are very site specific and depend on stream size, riparian growth rates and height, stream orientation, etc. The proposed mitigation would require the amount of excess energy discharged over 40 years to be equivalent to the energy captured by mitigation over 40 years. Since riparian vegetation will not reach its full height immediately, some understanding of the time frames to be used when comparing energy captured by mitigation to that discharged is required. The requirement for an equivalent amount of energy over 40 years does require that ultimately, when the shade measures mature, they must capture more energy than is being discharged. The heat reductions from the mitigation plan will increase over the life of the

project. At the outset the heat load discharged under the permit will exceed the heat reduction from mitigation. Eventually, the annual heat reduction will exceed the heat load discharged under the permit. By the end of 40 years, the aggregate heat load discharged under the permit for that 40 year period will have been fully offset by the aggregate heat reduction provided by the mitigation project for that period

The ratio for mitigation measured for the mature system will be site dependent, but would be near 2:1 for a small stream and higher if the mitigation occurred on a large stream. The requirement for time dependency also provides inherent penalties for delaying the implementation of the mitigation. Since the effectiveness of the heat exchanger could reduce the amount of excess heat which needs to be mitigated, it appears reasonable to not undertake full mitigation until the effectiveness of the heat exchanger is known. However, that would not preclude some initial implementation and clarification of expectations for mitigation in the permit.

The Department has estimated the length of stream necessary to fully mitigate the maximum heat load that may be discharged under the permit. However, the length of stream to be shaded will depend on many site-specific factors, including orientation of the stream and its width. For example, to mitigate the maximum heat load from the source using a 10m wide could be achieved with 2.6 km of shading. The calculations were developed from the governing equations in the "Heat Source" model to be consistent with other Department temperature analyses. The requirements for mitigation are not intended to allow the permit to remain free to discharge excess heat and not mitigate. These conditions will be clarified.

Mixing Zones. The application of a mixing zone for temperature has been questioned by commenters. State rules require that water quality standards be met outside the assigned mixing zone. The Columbia River at times exceeds the basin temperature criterion of 68 °F. Some commenters assert that this rule prohibits the use of mixing zones on water quality limited streams. The Department disagrees with this interpretation. The specific rules guiding the conditions for which a new source may be allowed to discharge to a stream water quality limited for temperature prior to a TMDL specifically allow the use of a mixing zone. The Department does not interpret mixing zone rules to prohibit mixing zones in water quality limited streams and has never disallowed a mixing zone solely because the stream is water quality limited. The Department's concern is to ensure that the discharge will not cause or contribute to a violation of water quality standards outside the mixing zone.

Further, the Department does not agree with this comment because the specific rules for temperature clearly allow the use of mixing zones, even in a basin that is water quality limited for temperature. Paragraphs (3)(a)(D) through (H) of OAR 340-041-0026) allow new heat sources to a stream that exceeds numeric temperature criteria provided that certain conditions are met. Paragraph (F) allows a new heat discharge in waters exceeding the numeric temperature criteria if the new or increased load will not itself cause an increase of more than 0.25 °F and combined with all other new point sources will not cause a net temperature increase in the receiving stream of 1.0 °F. Since this rule clearly contemplates the discharge of water at a temperature that is measurably above the water quality criteria at the point of discharge, the 0.25 °F limitation can

only be read to apply at the edge of a mixing zone. Within such a mixing zone, the rule allows a measurable increase in temperature, which is defined by rule as an increase greater than 0.25 °F (OAR 340-041-0006(55)). Further, the rule states that the < 0.25 °F may be used to demonstrate that there is no impact to beneficial uses.

The Commission's policy to allow mixing zones is also clearly stated in paragraph (3)(a)(G). This paragraph allows a discharger to petition the Department for an exception to Paragraph (F) provided that "[t]he discharge will result in less than 1.0 °F increase at the edge of the **mixing zone**" (emphasis added) and other conditions are met. This specific reference to a mixing zone for temperature in a water quality limited basin leaves no question that the Oregon rules allow the use of mixing zones for temperature in water quality limited streams. It also makes clear that the 0.25 °F standard (or no measurable increase standard) described in paragraph (F) is intended to be applied at the edge of such a mixing zone.

The Department has consistently applied the anti-degradation rule in this manner. The Department's guidance for temperature management plans, *Temperature Management Plans: Internal Management Directive for Existing Point Source Dischargers* (May 15, 2001), includes an extended discussion of mixing zones for temperature. At page 4, it specifically states the requirement that a temperature management plan that is developed before the TMDL should include a "description of physical conditions of effluent mixing zones and dilution of effluent within the receiving stream." Since a TMDL would be developed only for a water quality limited stream, it is clear that this requirement applies to mixing zones in water quality limited basins. The Department has applied this reading of its rules in the issuance of other NPDES permits that allow temperature mixing zones in basins that exceed the numeric temperature criteria.

The Department also disagrees that the mixing zone rules prohibit the use of mixing zones on any water quality limited stream. The Department interprets this rule to mean that a particular discharge cannot cause or contribute to a water quality violation outside its mixing zone, not that mixing zones are prohibited if for reasons unrelated to the discharge the receiving stream does not meet the water quality standards. In an affidavit to the Circuit Court of the State of Oregon for the County of Multnomah, dated November 7, 2002, the Department's Water Quality Administrator Michael Llewellyn stated:

> "DEQ does not interpret OAR 340-041-0445(4)(b)(B)(ii) to prohibit mixing zones in water quality limited streams and has never disallowed a mixing zone solely because the stream is water quality limited. Rather, DEQ's concern is to ensure that the discharge will not cause or contribute to a violation of water quality standards outside the boundary of the mixing zone."

Similarly, the basin temperature standards also refer to both a measurable increase and the temperature management plans. " .... Unless specifically allowed under a temperature management plan as required under OAR 340-041- 0026(3)(a)(D) no measurable increase surface water temperature increase resulting from anthropogenic activities is allowed." The metric in the standard is no measurable increase, defined as 0.25 °F, that must be met at the edge

of the mixing zone. A source in compliance with an approved TMP shall not be deemed to be causing or contributing to a violation of the numeric criterion if the surface water temperature exceeds the criterion. The TMP must be part of the NPDES permit. The proposed source meets the basin standard for no measurable increase outside of the MZ, and has an approved TMP that has been incorporated into the permit. The source complies with the state temperature standard, and by rule has no reasonable potential to cause or contribute to a violation of the temperature standard.

The Department has extensively examined the possibility of water quality standards violations for temperature, dissolved oxygen, and toxics. Both the Department and the applicant modeled the proposed discharge using EPA approved and supported computer models. The Department believes that a mixing zone is both permissible and reasonable for this discharge and has viewed the modeling results accordingly. The modeling showed that the proposed discharge would not cause violations of acute temperature or chlorine numeric standards outside of a zone of initial dilution nor of chronic numeric standards outside of a regulatory mixing zone. The proposed size of the mixing zone is 30 meters in horizontal flow direction from the outfall. The proposed size of the zone of initial dilution (ZID) is 3.5 meters in any horizontal flow direction from the outfall.

5. <u>Comments regarding Anti-degradation Finding OAR 340-041-0026(3)(a)(F)</u>

This section of the rules allows the Department to approve new thermal discharges.

Comments:

One commenter (Bell) stated that this section of the rules is a variance procedure which would require the Department to conduct a public process, submit the variance to EPA for approval or disapproval, and conduct a Use Attainability Analysis. The commenter further stated that the Department had not done any of these things.

Department's Response:

OAR 340-041-0026(3)(a)(F) is not a variance procedure and is not subject to the requirements of 40 CFR §131.20, §131.21 and §131.10(g). Paragraph (F) describes itself as simply a set of conditions that must be met for new or increased loads discharged to a basin that exceeds the numeric temperature criteria. At EPA's request, DEQ provided EPA an explanation of this and related paragraphs by letter dated June 22, 1998. That letter clearly describes OAR 340-041-0026(3)(a)(H) as a "variance policy" and states that any proposed variance would be submitted to EPA for review and approval. This same letter describes paragraph (F) as an implementation policy for paragraph (C); it makes no mention of paragraph (F) being a variance policy.

In its July 22, 1998 approval of these rules, EPA mistakenly references paragraph (F) in a discussion about variance policies. In the approval, EPA stated: "The State in the [June 22, 1998] Letter said that they treat these provisions as variance policy, and would be submitting variances to EPA for review and approval." This statement was incorrect with respect to

paragraph (F). EPA did approve and state that increases of 0.25 °F are permissible as a deminimus amount that would not trigger antidegradation.

DEQ does not regard the criteria set forth in paragraph (F) to be a variance and DEQ does not consider application of paragraph (F) to be a variance policy. The mistaken statement in the EPA approval cannot change the plain meaning of the rule language.

6. Comments regarding Anti-degradation Findings OAR 340-041-0026(3)(a)(E) and (G-J).

No specific comments were received regarding these specific anti-degradation findings.

7. Comments regarding Anti-degradation Finding OAR 340-041-0026(3)(b)(A-B)

This section of the rules deals with (A) Environmental Effects Criteria and (B) Economic Effects Criteria.

Comments:

Five people spoke in support of this project including State Representative Betsy Johnson, County Commissioners Joe Corsiglia and Rita Bernhard, the Port's Marine Industrial Manager Paul Langner, and Diane Pohl speaking for the community. Many of the comments focused on the social and economic benefits to the local community of the proposed project. Paul Langner's comments are representative of the supporting comments.

"In summary, the environmental impacts of the proposed NPDES permit are negligible. The Port has carefully studied all of the water quality and other environmental impacts relating to this permitting. We have made many changes to the Project to address the concerns of the Department. The resulting proposed NPDES permit protects the Columbia River and the resident biological communities. It also complies with all applicable DEQ regulations and policies. We believe the EQC should accept the NPDES permit proposed by the Department."

"The benefits of the projects proposed for Port Westward will reach beyond the local community. While our immediate community needs these projects to improve and diversify our economy, the entire Pacific Northwest will benefit from diversifying our power supply sources and eliminating the need for MTBE to oxygenate our fuel."

Department's Response:

DEQ agrees that the Port Westward facility will bring significant social and economic benefit to the city of Clatskanie and to Columbia County. The Department's finding that the source complied with standards was presented in the permit evaluation report.

The applicant performed a thorough review of available treatment technologies. The final proposed technology is appropriate and effective. Additional treatment would be extremely costly and would contribute very little additional benefit to the environment.

III. PERMITTING ISSUES .

In addition to the anti-degradation findings the public comment period provided opportunity for the public to comment on the proposed permit conditions. Several comments were received that that focused on draft permit conditions that are not directly related to the anti-degradation findings.

Comment: Foster questioned whether it is appropriate to allow another incremental increase in thermal pollution and stated that if the permit was denied the benefit would be salmon recovery in 20 years.

Department's Response:

As discussed at length earlier, this discharge will have negligible influence on the overall thermal budget of the Columbia River, if any at all. The net influence of all the point sources to the Columbia is too small to be measurable. Unfortunately, neither this decision nor any precedent it sets will drive salmon recovery in the next 20 years as suggested.

Comment:

The Department approach to permit only one entity rather than individually permit all sources that connect to the system was questioned. Further, the commenter questioned if the industrial sources can mix their waste and discharge through an individual NPDES permit should they be co-permittees as with the Port of Portland de-icing permit. The commenter also questioned how this decision would influence the ability of citizens to assure compliance. Additionally comments questioned why the permit facility was being permitted as an industrial source rather than a publicly owned treatment works (POTW). The Port is a municipality by federal definition which are typically permitted as a POTW.

Department's Response:

There is only one wastewater conveyance and outfall planned for this permit. The Port of St. Helens will assume full responsibility for the discharge. The Department has decided to regulate the Port as the single permit holder to simplify permit and compliance actions and to give the Port the flexibility to add dischargers to its system. The individual facilities could change. The Department does not see any benefit to adding additional permittees to the permit. The deicing and dewatering permits for the Port of Portland at the Portland International Airport have multiple permittees at the request of the permittees.

Under the provisions of OAR 340-045-0015(4), the waste-producing facilities that discharge into the Port's "sewerage system" are exempt from the requirement of obtaining an NPDES permit so long as the Port, as owner of the sewerage system, possesses a valid permit. This regulation also requires the Port to assume ultimate responsibility for controlling and treating the waste that it allows to be discharged into its system. The proposed NPDES permit holds the Port ultimately

responsible for the wastewater discharges of the users and, therefore, the permit complies with the requirements of Oregon law. Under federal law it appears that the permit writer has discretion to permit either an individual source or all sources. Any citizen who wants to allege violation of the Port's NPDES permit may do using the customary means.

Under an opinion issued by EPA's General Counsel in the late 1970s, Port Westward would not be a POTW because it would treat exclusively industrial waste. *See In re B.F. Goodrich Chem. Co.*, Opin. No. 76, 1979 WL 33,543 (EPAGC). The General Counsel's opinion in *B.F. Goodrich* concerned a facility that was, in all relevant respects, identical to the proposed Port Westward facility. The facility treated only wastewater from industrial facilities. The opinion acknowledged that the Authority was a municipality and that its facility was a "treatment works." Based on the structure and legislative history of the CWA, however, the opinion concluded that Congress intended POTWs to be limited to facilities that treat municipal sewage (whether or not the facility also treats industrial waste). Accordingly, the opinion deems a facility that treats only industrial waste to be an industrial facility and not a POTW, regardless of whether the facility is municipally owned. 1979 WL 33,543, *2-*5. *Cf.* 50 Fed. Reg. 32,548, 32,551 (Aug. 12, 1985)

It also is instructive to compare the Port Westward project to "typical" POTWs. For the most part, regardless of the legal definition, a POTW ordinarily means a publicly owned treatment works using primary and secondary treatment to treat household domestic waste.[1] For instance, the following passage is from the EPA NPDES Permit Writers' Manual:

> Municipalities (e.g., POTWs) receive primarily domestic sewage from residential and commercial customers. Larger POTWs will also typically receive and treat wastewater from industrial facilities (indirect dischargers) connected to the POTW sewerage system. The types of pollutants treated by a POTW, therefore, will always include conventional pollutants (BOD, TSS, pH, oil and grease, fecal coliform), and will include nonconventional and toxic pollutants depending on the unique characteristics of the commercial and industrial sources discharging to the POTW. The treatment typically provided by POTWs includes physical separation and settling (e.g., screening, grit removal, primary settling), biological treatment (e.g., trickling filters, activated sludge), and disinfection (e.g., chlorination, UV, ozone). EPA

[1] In another EPA guidance document, EPA states: "Generally, POTWs are designed to treat domestic sewage only." *Introduction to the National Pretreatment Program*, EPA Office of Wastewater Management, EPA-833-B-98-002 (February 1999). In further elaboration, the document describes the biological and physical treatment processes required by POTWs to treat municipal waste and other conventional pollutants, and then describes the overall "need" for the Pretreatment Program as being the elimination of toxic and other pollutants which interfere with the biological processes present in a POTW, or which pass through. Again, none of these concerns are raised by the Port Westward project.

> NPDES Permit Writers' Manual, Chapter 2.2, "Scope of the NPDES Program" (EPA, 1996).

Clearly, none of these elements will be present at the Port Westward facility. The Manual goes on to describe industrial facilities:

> Non-municipal sources, which include both industrial and commercial facilities, are unique with respect to the products and processes present at the facility. Unlike municipal sources, the types of raw materials, production processes, treatment technologies utilized, and pollutants discharged at industrial facilities vary widely and are dependent on the type of industry and specific facility characteristics. EPA NPDES Permit Writers' Manual, Chapter 2.2, "Scope of the NPDES Program" (EPA, 1996).

EPA guidance and the BF Goodrich General Counsel's Opinion clearly establish that the Port of St. Helens should not be regulated as a publicly owned treatment works with regard to the proposed Port Westward project.

The Departent believes this permitting approach is appropriate since the Port will operate and maintain the treatment system that is used to ensure NPDES permit compliance. The proposed permit directs the Port to require all industrial users to meet the new source performance standards specified in the permit.

Comment:

One commenter questioned if chlorine could be readily treated, and if so, why should the permit not restrict the discharge of a known toxic to levels that can readily be treated.

Department's Response:

Chlorine can be readily treated by dechlorination or effluent levels reduced by holding the chlorinated water and allowing the chlorine to volatilize. Certainly, chlorine reduction would make mixing zone compliance easier. Reasonable effluent limits have been developed that can be achieved through either passive volatilization or dechlorination. These limits are consistent with the water quality based effluent limits to achieve acute criteria at the edge of the zone of initial dilution. Limits for chlorine will be a monthly average of 0.15 mg/L and a maximum of 0.38 mg/L. These are included in the permit as effluent limits. Typical levels discharged would be below measurable.

Comment:

Commenters questioned if there was a stand alone temperature management plan or just permit conditions.

Department's Response:

There is a stand alone TMP. The TMP will also be implemented in the permit as required by rule. The permit will be reorganized to clearly identify implementable parts of the TMP. The TMP meets rule requirements for approval. Substantial supporting information about biological effects has been provided. The TMP has been prepared and it is consistent with rule and guidance. The cold water refugia issue has been addressed

Comment:

Two commented questioned how the permit could be consitant with the federal requirements under 40 CFR § prohibiting new discharges to water quality limited waterbodies.

Department's Response:

Although the following is not directly related to anti-degradation since the permit complies with state water quality standards, it is a permit issue. As the commenter notes, 40 CFR. § 122.4(i) prohibits the issuance of an NPDES permit "[t]o a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards." The rule then sets forth an exception to that general rule: a permit may be issued for new source or new discharger on a water segment that does not meet applicable water quality standards if there are sufficient remaining pollutant load allocations to allow for the discharge, and the existing dischargers are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standard. The exception applies when the discharge has reasonable potential to cause or contribute to a water quality standard and a TMDL has been done. Since the discharge does not cause or contribute to a violation of applicable water quality standards the exeption does not apply.

Comment: In addition to other mixing zones issues addressed above commenters questioned if the mixing zone design adequately protect salmonids and minimize risk to other species. In a similar issue one comment questioned if the deep hole provide thermal refugia that should be avoided with the mixing zone.

Deparment's Response:

The Department agrees that the mixing zone should be designed to minimize risk not only to salmonids but to all other species as well. The mixing characteristics are influenced in part by the effluent temperature. Since the temperature is reasonably expected to change based on the effluent temperature, the mixing zone size and placement was reviewed. The optimum size and design of the mixing zone may change due to the probable lowering of discharge temperature because of the heat exchanger. The conclusion that a mixing zone can be sized and placed to not impair beneficial uses is still appropriate, and with both chlorine control and temperature reduction easier to meet.

The outfall design was modified to make sure the pipe was not elevated above the surface which would expose it to damage and potential failure. The diffuser was pulled away from the thalweg to the edge of the channel (55 – 65 feet depth) to minimize potential risk to juvenile and young of the year sturgeon. The design was modified to incorporate an alternating diffuser with the ports angled at 45 degrees to optimize mixing. The port angle assures the plume stays off the bottom while also assuring the effluent is not directed up toward the surface to minimize the potential for the warm water to reach the primary depth for juvenile salmon migration. The alternating diffuser helps spread the initial mixing while allowing much of the effluent to flow with, and optimally mix with the direction of ambient flow as the tides reverse. The diffuser length is 22 meters. The number of ports was changed. Port velocities were maintained at 3 m/s for the design flow. Sensitivity analysis suggested the dilution conditions did not vary significantly with the optimum range for the number of ports between 8 and 15. The number of ports was reduced from the original proposed 30 ports to 15 three inch ports to achieve greater structural integrity of the risers. Additionally, flapper valves were added.

As part of the review, the Department communicated with the Oregon Department of Fish and Wildlife (ODFW) and the National Marine Fisheries Services (NMFS). The ODFW written comment provided metrics consistent with those used initially to design and place the outfall. The ODFW recommended that the diffuser should be placed far enough out in the river to avoid blocking upriver migration of adults which tend to follow the river banks, the diffuser should be located where the water depth is more than 30 feet to avoid affecting salmon smolts out migration since these migrants occur mostly in the top 30 feet, the diffuser should be in an area of free flow rather than backwater eddies, the diffuser should not be located near spawning beds. The ODFW noted that they have limited amount of information on sturgeon and the effect of temperature on their health. The ODFW believes that the deep holes in the Columbia River are used slightly more frequently in the Columbia River by juvenile sturgeon, especially in the summer months (ODFW personal communication). Available literature that was reviewed suggests that sturgeon populations in the lower Columbia are one of the most productive. Sturgeon sub-yearlings, yearlings, and juveniles would be expected to be present in the area of the proposed discharge. Surveys indicated that juvenile sturgeon would be present at depths of greater than 10 meters. Bottom trawls suggested juvenile sturgeons were more abundant along the river thalweg.

The Departments consultant and the applicant responded to concerns raised by commenters additional analyses leading to modification of the outfall location and design. The modifications and subsequent analysis demonstrate using the USEPA PLUMES model that the mixing zones meets state mixing zone requirements and the EPA guidance as defined in the TSD.

No information has been provided indicating that the discharge location provides cold water refugia, indeed all available information suggest otherwise and the design requirements minimize potential impact to salmonids. Impairment of the biological integrity of T & E population of species has been addressed. All the documentation developed by the Department and by the applicant has been and still is available for review. The Department's literature review has been and remains part of the public record and has been and continues to be freely available to anyone who wants to look at it.

IV. PERMIT MODIFICATIONS

Effluent limits were added for pH in the range of 6.5 to 8.5.

Chlorine effluent limits were made more stringent than in the public notice draft of the permit for a monthly average of 0.15 mg/l and a maximum of 0.38 mg/l.

The language dealing with heat exchangers and heat load mitigation was clarified.

The permit conditions implementing the temperature management plan re-organized and clarified to clarify which permit conditions implement the temperature management plan.

The time period for implementing the temperature limits and operating the heat exchanger was increase to occur from June 1 through October 15 of any year.

The zone of immediate dilution was changed to < 4 meter in any flow direction, the mixing zone to 30 meters, the placement of the mixing zone changed to a depth between 55 to 65 feet.

V. SUMMARY OF THE TESTIMONY GIVEN AT THE HEARING

The five supporting comments are summarized in next five paragraphs.

State Representative Betsy Johnson sent written comments which were read by Paul Langner. Ms. Johnson strongly supports the issuance of the NPDES permit for the Port. She is "convinced the science used to support this permit is proven and reliable." She states that "the development of Port Westward is long overdue." Furthermore, "Port Westward Industrial Park Project is important to the economic revitalization of Columbia County." "The electrical power generated by the Port Westward Project will improve the energy stability of our regional economy. The ethanol production helps keep our air clean and eliminates the need to the carcinogenic oxygenate MTBE. These projects proposed to be constructed at Port Westward improve our quality of life and positively impact the entire Pacific Northwest."

Paul Langner read a statement from the Port of St. Helens in support of the permit issuance. Mr. Langner spoke about the proposed use of heat exchangers and cool ground water to minimize impacts. See above.

Joe Corsiglia, Columbia County Commissioner spoke in favor. Mr. Corsiglia stated that the county needs the development. Clatskanie and the surrounding area have lost population. "The permit will make or break the project." The proposed projects need infrastructure. There will be $900 M to $1 B in capital investment. Pollution will be reduced because of less auto travel. People will stay nearby. Port Westward is one of the last underdeveloped areas. The Project will do a tremendous amount for the area.

Diane Pohl testified on behalf of the community. She stated that the lumber and fishing industries have declined. The temperature limit will be met within one meter of the outfall's diffuser. Columbia County will have an opportunity to provide jobs, educate children, and do other beneficial things.

Rita Bernhard, County Commissioner spoke in support of the project. The project will provide needed jobs while protecting the environment. The project has been a grassroots effort by the community.

Brent Foster of Columbia Riverkeeper raised several concerns. He recognizes the need for jobs and economic development, but is concerned about the Clean Water Act and precedents for new and ongoing permits on the Columbia River.

VI. WRITTEN COMMENTS

Four commenters presented comments in writing which required detailed responses. The commenters were Brent Foster of the Columbia Riverkeeper, Nina Bell of Northwest Environmental Advocates, Rick Kepler of the Oregon Department of Fish and Wildlife, and Evan Fidis representing himself. Their comments are included as the following attachments:

Exhibit 1	The Columbia Riverkeeper, Brent Foster
Exhibit 2	Northwest Environmental Advocates, Nina Bell
Exhibit 3	Oregon Department of Fish and Wildlife, Rick Kepler
Exhibit 4	Evan Fidis

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Mr. Elliot Zais
Oregon DEQ, NW Region
2020 SW 4th Ave, Suite 400
Portland, OR 97201-4987

RE: Port of St. Helen's NPDES permit

November 25, 2002

Dear Mr. Zais,

I am writing on behalf of Columbia Riverkeeper, the Northwest Environmental Defense Center (NEDC), the Oregon Public Interest Research Group (OSPIRG) and the Sierra Club Oregon Chapter to comment on the proposed NPDES permit for the Port of St. Helens. We have a number of questions and concerns with the proposed permit that stem from the fact the discharges at issue are into an already degraded waterbody that contains a host of sensitive aquatic species including multiple species of salmon and steelhead.

1. General concerns

We object to the proposed permit since it would allow for the discharge of additional pollutants, such as heat and DO depleting pollutants and concentrated toxics, at a time when the Columbia River is already suffering from water quality that does not protect designated and existing beneficial uses such as salmonids. While DEQ and the applicant makes the case that the contribution from the proposed permit is minimal, there is no way to avoid the fact that the permit would move the Columbia River further away from being a river that will support salmonid recovery. There is ample scientific consensus that the impaired water quality in the Columbia is a major factor related to the decline of wild salmon and steelhead.

The loss of historic salmon populations has not only had serious environmental effects, but has also seriously affected Native American tribes dependent on salmon for thousands of years, as well as, fishing communities throughout the Northwest. The combined environmental and social effects of poor water quality in the Columbia have created broad public support for restoration of the Columbia River and its salmon, as well as, for the tough decisions that need to be made to effectuate salmon recovery. DEQ is the chief public agency whose actions will determine whether the Columbia continues to become less hospitable to cold-water aquatic species or whether water quality in the Columbia will improve.

The road of improving water quality would no doubt be the tougher road for a state agency to take. It would require saying enough is enough and it would require saying "no" to projects that trended the Columbia River away from improved water quality. The reward, however, could be viable salmon populations in twenty years. What is possibly most unfortunate with this permit, is the fact it reflects a DEQ perspective that the Columbia River, a river that almost everyone agrees has been battered, abused and neglected, can somehow stand just a little bit more abuse. It reflects the notion that a River that already regularly exceeds the temperatures which led to the massive salmon die-off in the Klamath River this summer, can take just a few million more gallons a day of high temperature water. It says that a river with fish that already exceed permissible toxicity levels can withstand yet another toxic hotspot which would be created by the applicant's concentrated discharge of water that was already violating water quality standards.

The inclusion of a new mixing zone in the proposed permit reflects the regrettable loss of another part of the Columbia River where toxicity will not just be noted with concern, but legally permitted. The newly proposed mixing zone, despite any support in the federal Clean Water Act, would carve out of the Columbia River a new area where beneficial uses would not be protected, and yet another area that the biostitutes suggest will simply have to be avoided by the migrating salmon and steelhead that have already journeyed thousands of miles back to the Columbia.

Aside from the technical and legal issues we have with the proposed permit, the fact that DEQ plans to inflict another insult onto the battered victim of human arrogance which was once arguably the greatest river in the United States is a sad statement about how a state proud of its environmental ethic is unwilling to take seriously a policy of river restoration it has spent so much time talking about.

We are concerned about the economic sustainability of the region where the proposed facilities would be located, but believe the project as proposed creates a false choice between further environmental damage to the Columbia River and economic growth.

2. Permit holders

We are concerned that the proposed permit is being issued to the Port of St. Helen's and not the individual dischargers responsible for the waste creation. We believe that given the nature and size of the facilities that would discharge under the proposed permit and the legal and financial characteristics of the Port, the dischargers should be named as dischargers on the permit.

Question 1- What recourse would citizens have for permit violations against the individual facilities that discharge into St. Helen's system?

Question 2- What is the logic and reasoning behind not including the actual waste producing facilities on the permit?

3. Heat Discharges

A. *General*

We oppose the allowance of any additional heat discharges into the Columbia River since the Columbia is already water quality limited and high temperatures already exceed temperatures protective of salmon. The actual impact of the proposed permit limits is blurred significantly by the unsupportable assumption that 68 °F waters will protect salmon and steelhead against heat-induced disease and mortality.

B. *Permit limits and 68° F temperature standard fail to protect salmonids*

OAR 340-041-0026(3)(a)(B) and OAR 340-041-0202 prohibits discharges that would threaten or impair beneficial uses. DEQ does not have a reasonable basis for concluding that the proposed permit would protect beneficial uses since it relied on the unsupportable assumption that a 68 °F temperature standard would protect salmonids. There is no valid scientific basis for this assumption.

OAR 340-041-0026(3)(a)(B) supports that DEQ and the Commission can rely on the "presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected," but there is no reason to think that this is a presumption that cannot be rebutted by more current and reliable evidence to the contrary. This is strongly bolstered by the EQC's own recognition in its regulations that states:

> The EQC, in establishing these criteria, recognizes that new information is constantly being developed on water temperatures and how water temperatures affect different beneficial uses. Therefore, continued reevaluation of temperature information is needed to refine and revise numeric criteria in the basin standards over time. OAR 340-041-0120 (11)(d).

The Biological Evaluations' summary on the effects of temperature on salmonids is without scientific merit and ignores the significant body of current scientific information that supports salmonids suffer both acute and chronic adverse affects from significantly lower temperature levels than disclosed in the BE. BE at 26-31. DEQ should obtain and review the most comprehensive synthesis prepared to date on the effects of elevated temperatures on salmonids entitled, "A Review and Synthesis of Effects of Alterations to the Water Temperature Regime on Freshwater Life Stages of Salmonids, with Special Reference to Chinook Salmon." Dale A. McCullough, Ph.D, EPA 910-R-99-010 (1999). In this report prepared by the Columbia River Intertribal Fish Commission (CRITFC) and EPA, the author concludes that a comprehensive review of a wide variety of current scientific literature supported that, "Temperatures of 21.0°C must be avoided because they represent thermal blockages and also are near adult upper incipient lethal temperatures. Temperatures >15.5°C [60.21 °F] greatly enhance incidence of disease and mortality rate."

Question XX- Does DEQ believe that salmonids will be protected against increased incidence of disease and associated mortality in waters of 68 °F? If so, what is the scientific basis for this conclusion?

Question 3- DEQ appears to assert in the permit evaluation report that it does not have a responsibility to consider whether the permit will actually protect beneficial uses independent of ensuring compliance with numeric temperature standards. Is this DEQ's position or does DEQ acknowledge that it has an independent duty to ensure protection of such uses in addition to ensuring compliance with numeric standards in a case where it has evidence that numeric standards may not in fact be protective of beneficial uses?

Recognizing that salmonids are not protected by a 68 °F temperature standard is necessary both for the purposes of setting effluent standards and for assessing the current condition of water quality in the Columbia and the resulting affects on salmonids. It is against a backdrop of a river significantly exceeding temperature levels that DEQ must consider the proposed permit.

C. *The Proposed Permit Would Violate EQC Rules Against Increased Heat Discharges in Water Quality Limited Waterbodies*

OAR 340-041-0026(3)(a) requires the EQC to make three principle findings to allow a new or increased discharged load.

OAR 340-041-0026(3)(a) states:

> In allowing new or increased discharged loads, the Commission or Department shall make the following findings:
> (A) The new or increased discharged load would not cause water quality standards to be violated;
> (B) The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial uses. In making this determination, the Commission or Department may rely upon the presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected. In making this determination the Commission or Department may also evaluate other state and federal agency data that would provide information on potential impacts to beneficial uses for which the numeric criteria have not been set;
> (C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited under OAR 340-041-0006(30)(a) unless [conditions that do not apply to this permit exist.]

The EQC cannot make any of these findings given the fact that the proposed discharges would add heat to a river that already exceeds numeric temperature criteria and is already failing to protect existing and designated beneficial uses such as salmon and there is no TMDL river completed for the river. The EQC cannot find, as required by OAR 340-041-0026(3)(a)(A) that, "[t]he new or increased discharged load would not cause water quality standards to be violated;"

since the addition of heat from the applicant's facility would cause water quality standards to be violated. This reality could be most clearly seen at a time when the Columbia is at a temperature of 67.99 °F and the applicant's effluent is at its maximum "instantaneous" temperature of 32 ° C (90.24°F). The addition of the applicant's discharge would in this situation cause an exceedance of the numeric criteria for temperature.

The EQC could not make the finding required under OAR 340-041-0026(3)(a)(B) for the same reason, even assuming that EQC relied on the unreasonable assumption that a temperature standard of 68 °F was actually protective of salmonids.

OAR 340-041-0027 requires that the, "Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities," and OAR 340-041-0026(1)(a) requires DEQ "to protect, maintain, and enhance existing surface water quality to protect all existing beneficial uses." Similarly, OAR 340-041-0202 requires management of the lower Columbia to protect designated beneficial uses such as salmon migration and rearing. As a result, the inclusion of a mixing zone in the proposed permit does not provide a basis for finding that OAR 340-041-0026(3)(a)(A) or (B) would be met.

EQC is also unable to show that any of the exceptions to OAR 340-041-0026(3)(a)(C) apply or that other OAR provisions would exempt the discharges at issue from the requirements the EQC needs to find are met in order to approve the proposed permit. For the same reasons, the allowance in the permit for discharges with pH levels that exceed water quality standards and for discharges that will further reduce DO levels are inconsistent with the OARs.

The proposed discharges are of particular concern given the potential impacts to Bradbury Slough as a result of the project's discharges. Bradbury Slough is important for juvenile salmonid rearing and acclimation and salmon could be present in the Slough during the summer months. BE at 21, 24. Bradbury Slough also likely provides rearing habitat for coastal cutthroat trout and the Slough is likely used for migration during critical summer and fall periods. BE at 22. The proximity of the applicant's discharges to the Slough and the potential that tidal action could force high temperature discharges into the Slough should be more closely evaluated and considered.

D. *Permit Would Cause Violation of Water Quality Standards*

OAR 340-041-0205 states that:

(2) No wastes shall be discharged and no activities shall be conducted which either alone or in combination with other wastes or activities will cause violation of the following standards in the waters of the North Coast -- Lower Columbia River Basin:

(A) To accomplish the goals identified in OAR 340-041-0120(11), unless specifically allowed under a Department-approved surface water temperature management plan as required under OAR 340-041-0026(3)(a)(D), no measurable surface water temperature increase resulting from anthropogenic activities is allowed:

(ii) In the Columbia River or its associated sloughs and channels from the mouth to river mile 309 when surface water temperatures exceed 68.0 << degrees>> F (20.0 <<degrees>> C);

It is not clear that there is a "Department-approved surface water temperature management plan as required under OAR 340-041-0026(3)(a)(D)" for the proposed permit. The draft permit states that, "The effluent limitations and other conditions in this permit related to temperature shall constitute the surface water temperature management plan (temperature management plan) required by OAR 340-41-0026(3)(a)(D) and 340-041-120 (11)(e)(C) applicable to the permittee." Calling the terms of the permit a TMP, however, seems inconsistent with the requirements of a TMP.

Question 4- Does DEQ actually mean to call the permit terms that address temperature a TMP or is DEQ referring to some other document that it believes is a TMP?

E. *The Proposed Permit Limits are Inadequate To Ensure Protection*

We object to the fact that temperature limits in the draft permit only apply for a three month period and omit other months when Columbia River temperatures exceed temperatures that are protective of salmonids and other cold-water species. Permit at 2. Temperatures as high as 68.36 ° F have been recorded to occur during the month of June and the mean temperature between November 20, 1990 and November 25, 2001 was 61.83 ° F, which is very close to the upper temperature limit thought to be protective of salmonids. Applicant's Biological Assessment at 9. Similarly, temperatures as high as 65.66 °F have been recorded during the month of October, which exceed temperature levels protective of salmonids. Because of the warming trend that is currently occurring in the Columbia River the permit should include temperature restrictions for at least both June and October that restrict the addition of any heat to the Columbia River.

Question 5- On what basis were temperature limits not required for June and October?

Question 6- On what basis can DEQ ensure the protection of existing beneficial and designated uses during June and October given the potential for temperatures to exceed temperatures protective of salmonids during these months and the potential for the applicant's discharges to exacerbate and/or cause violations of the water quality standard for temperature during this time?

F. *The Proposed Mixing Zone Violates the CWA and DEQ Rules*

While the statutory basis for a mixing zone in the CWA is tenuous enough, the allowance of a mixing zone in a water quality limited river for a pollutant that is the cause of the river's listing is not permitted. The proposed mixing zone is inconsistent with the CWA's statutory and regulatory requirement that NPDES be consistent with the protection of beneficial and designated uses. The proposed permit would take a portion of the Columbia where water quality standards must now be met and establish that both existing and designated uses no longer had to be protected within this zone.

In addition to violating basic CWA requirements, allowing a mixing zone in a water quality limited stream is also inconsistent with DEQ's own regulations at OAR 340-041-0205 (4)(b). Although the permit states that it would require an "instantaneous" maximum temperature limit of 32 °C (90 °F), the permit actually defines this instantaneous maximum as a "2-hour average." Permit at 2. A temperature limit of 32 ° C itself, however, would not protect against acutely toxic temperature levels, as even DEQ has recognized in the past documents itself, and therefore the proposed permit would be inconsistent with OAR 340-041-0205 (4)(b)(A)(i) since the mixing zone could contain acutely toxic temperatures.

Question 7- What temperature does DEQ believe to represent the maximum acute temperature for the most sensitive salmonids? On what scientific information is this understanding based?

Furthermore, the permit would do nothing to restrict discharges at temperatures in excess of 32° F for any time period less than two hours so long as the daily maximum was not exceeded. Should there be some malfunction in the cooling system, it is entirely conceivable that temperatures could exceed 32 ° F and would not be restricted by this permit. Even if temperature peaks occurred for short periods of time, there could be significant adverse affects on salmonids during key migration or rearing periods. DEQ should change the proposed permit to contain a true instantaneous permit limit for temperature as opposed to a two-hour average.

Question 8- How can DEQ ensure protection of beneficial uses and the avoidance of acutely lethal conditions absent a truly instantaneous temperature limit?

The proposed mixing zone also violates OAR 340-041-0205 (4)(b)(B) since outside the mixing zone water quality standards would not be met either for temperature or other parameters for which the river is listed as water-quality limited.

G. *Proposed Heat Reduction Measures and Mitigations*

The Permit Evaluation Report states that, "The permit conditions support reversal of the warming trend in the river." Permit Evaluation Repot (PER) at 4. Since the permit allows the discharge of additional heat energy into the river at times when the river is already recognized as water quality limited, as well as, at times where the Columbia is not yet officially water quality limited, this conclusion is difficult to understand.

Question 9- How does a permit that allows additional heat input to the Columbia support reversal of the warming trend in the Columbia?

As stated, it is not clear whether DEQ is treating the permit conditions as a TMP or whether it is relying on an ancillary document as the TMP. If the former is true we do not believe the permit meets the requirements of a TMP. If the later is true, DEQ should more specifically identify this document and disclose how it meets the requirements of a TMP.

The proposal in the permit to potentially rely on off-site mitigation as the grounds for issuing this permit raises a number of concerns due to the specifics of how this mitigation project

is structured. First, we object to the fact that the reference point for calculating the heat load from the proposed project assumes a 68 °F waterbody. For reasons expressed above, any calculation that aims to calculate heat load in an attempt to mitigate the projects' adverse effects on salmon should be based on the temperatures that salmon actually need and not on a politically motivated temperature standard that lacks a reasonable scientific basis.

Second, the mitigation requirements of the proposed permit should not effectively disappear when the permittee "requests in writing that the Department modify this permit" so that no excess heat load would be permitted. Permit at 5. Although the permit requires some demonstration of the fact that no increased heat load *is being* discharged, the permit should be changed so that any elimination of the proposed mitigation requirements could only occur after DEQ has actually re-issued a modified permit to the applicant. Otherwise the applicant could remain free to discharge heat as provided by this permit when necessary, while enjoying the benefit of not implementing the proposed mitigation project.

Third, while we recognize the potential benefits that could result from streamside restoration to reduce temperature inputs to the river, the proposed permit provides few specifics about the nature of the proposed mitigation.

Question 10- Were the proposed mitigation project to compensate for the fully permitted heat load increase being allowed would it likely involve restoration on 1 mile of stream or 10 miles of stream?

While we are aware that this answer would differ based on the characteristics of the stream, there is nothing on which the public can really evaluate the likely effectiveness of the proposed mitigation since projecting future reduced heat input levels based on reduced solar radiation levels is an art that is highly susceptible to the type of manipulation that a well-funded discharger could contort to a significant extent.

Because the project would increase heat loading during June and October, any mitigation plan should also account for heat load increases during this period.

Question 11- On what basis is mitigation only required to account for heat load increases for the next 40 years?

We are also concerned that the permit mitigation requirements do not appear to give any assurances that the potential benefits of offsite mitigation would be maintained. For example, the proposed permit would seem to allow a private landowner who had just logged down to the streamside to replant the streamside with trees paid for through the proposed mitigation project. For 40 years the landowner could receive the benefits of this "mitigation project" and then log the trees again at the end of the 40 year period effectively eliminating any of the habitat benefits that may have started to develop during that time.

Question 12- Does the permit contain any assurance that this situation could not occur?

The permit also does not contain any clear requirements on when the benefits of the mitigation project must be realized.

Question 13- Over what time period must the proposed mitigation project offset the heat inputs allowed under the existing permit? Are there any interim time limits for meeting heat input reductions? Ten years after project implementation, what guarantees does the permit give that the mitigation project will have actually achieved the required reductions?

Question 14- What happens if the mitigation project fails to deliver actual heat reductions either due to problems with implementation or unexpected events such as fire or disease? Would the permittee be responsible for additional mitigation measures?

Finally, because of the uncertainties of mitigation benefits in the distant future and the certainties of impacts today, we believe there is a good basis for requiring substantially more than a 1:1 ratio between the expected benefits of mitigation projects and the allowance for increased heat loads.

Question 15: Why did DEQ set the bar so low as to allow only a 1:1 ratio when it is proposing to issue a permit so that a multi-billion dollar company can discharge more heat into a river that is already so hot that salmon are being adversely affected?

While we appreciate the potential role of off-site mitigation projects to offset the temperature effects of a given discharge and would not rule out supporting such mitigation under the right circumstances, the vague and speculative nature of the proposed mitigation project gives us little confidence that the planned mitigation will actually offset the effects of the proposed discharges.

H. *Antidegration Review*

For the reasons articulated above we do not believe the proposed permit is consistent with either the state or federal anti-degradation policies. The proposed permit would not only increase heat discharges into what is already a severely over heated system, but it would additionally significantly concentrate a host of hazardous pollutants including DDE, DDT and PCBs which already exceed water quality standards. The concentration of these toxic pollutants and others should have been considered as a part of the antidegration review but were not.

Question 16- Given that DEQ is applying the antidegradation review assuming that only degradation outside an allowed mixing zone could actually constitute degradation, is it true that DEQ could potentially find any potential discharge in compliance with the antidegradation policy so long as DEQ assigns a large enough mixing zone to the discharge? If not, please explain.

2. pH

The proposed permit should not allow pH discharges in excess of the water quality standard for pH at the end of the pipe. DEQ should not use a public water way as a dilution area for waste that violates water quality standard. This is especially true given the water quality

limited status of the Columbia for pH. The same concerns expressed above for temperature apply to pH.

Question 17- How can DEQ allow pH discharges in excess of water quality standards given that the Columbia is water-quality limited for pH?

3. Chlorine and other toxics

DEQ should similarly not allow a mixing zone based on the applicant's potential discharge of chlorine and should instead require the applicant to meet the water quality standards for chlorine at the end of their discharge pipe. The Columbia River violates numerous water quality standards and repeated studies have found abnormally high levels of a range of toxics in Columbia River fish. The notion that the Columbia River already has an excess of toxic compounds seems common-sensical and DEQ should not use its presumed discretion to create a mixing zone that allows for further toxic discharges.

OAR 340-041-0205 requires that in addition to numeric water quality standards that DEQ requires "the highest and best practicable treatment and/or control of wastes, activities, and flows shall in every case be provided ..."

Question 18- What technological controls is DEQ requiring for the applicant to control chlorine discharges? Does this represent the best practical treatment?

Question 19- Are there technological treatment measures that could reduce chlorine levels so that water quality standards could be met at the end of pipe? If so, why are these not being required or used ?

The assumption that fish would actually swim through the plants' Chlorine discharges does not appear to be supported by scientific evidence. Reliance on maximum swim speeds may establish that fish *could* swim through the toxic plum without significant adverse effects, but there is not evidence to support that the fish in fact *will* swim through the toxic chlorine plum.

Question 20- What scientific data supports that fish will swim through quickly or avoid the type of chlorine plumes that will result from this discharge?

The proposed permit proposes to waive monitoring requirements for 126 pollutants before any initial monitoring even occurs. PER at 3. Given the serious toxicity issues in the Columbia it would seem to make sense to require at least some initial testing for the presence of these pollutants prior to making this decision. If initial tests confirmed the absence of these toxics than DEQ may have a better basis for a waiver.

We are concerned about the concentration of toxic pollutants in the applicant's discharge and believe that additional analysis is necessary to disclose and consider the potential effects of toxics in the applicant's discharges. For example, the permit evaluation report finds that, "[t]here is no reasonable potential that the facility is adding arsenic to the river above background levels." PER at 15. The important question under EPA regulations, however, is

whether the discharge has a reasonable potential to cause a violation of water quality standards and not whether the discharge would add Arsenic above background levels. It is not clear that this has been evaluated by DEQ, but if Arsenic levels are already violating water quality standards in the Columbia near the point of discharge, as DEQ acknowledges, then there is real reason to be concerned, since the applicant's discharges would concentrate the presence of Arsenic by a factor of seven (7) and thus the applicant's discharge could cause a serious spike of toxicity well above the water quality standards. PER at 15.

The presence of Arsenic and other toxics at levels in fish that exceed human consumption levels further highlights the need to more closely evaluate the effect that the proposed project will have as a result of concentrating toxic metals and other compounds.

Given that the Beaver Army Terminal which is in close proximity to the proposed facilities was one of a number of sites where dieldrin was found in violation of water quality standards, it makes sense to close consider the effect concentration dieldrin at the end of the applicant's discharge pipe and in the proposed mixing zone. Simply concluding that concentrations after mixing will be slightly below chronic levels does not support that the discharges will be protective of human health given the potential for this pesticide to bioaccumulate.

Question 21- Did DEQ consider data from the recent CRITFC and EPA study on toxics in fish tissue in the Columbia River relating to the presence of toxic in fish at levels exceeding allowable health standards? Were any of the toxics that would be concentrated and contained in the proposed discharges among the toxics that were found at elevated levels in fish? If so, how would the proposed discharges be consistent with the protection of human health and protection of these fish given that the discharges would significantly increase the concentration of these toxics in the area downstream of the proposed outfall?

Question 22- What are the concentrations of PCBs, DDT, DDE, dieldrin, zinc, mercury, arsenic, cadmium, lead, copper and other priority toxics that would occur in the applicant's discharges at the end of their effluent pipe?

Question 23 – Why is it that the permit does not provide effluent limits for any of these parameters despite the fact the applicant's evaporation of these waters will clearly cause discharges that have a reasonable probability to violate water quality standards?

Question 24- Did DEQ perform a reasonable probability analysis consistent with EPA rules in determining whether to require effluent limits for toxics that would be present in the applicant's discharges? If so, was this based on an evaluation of compliance at the outside of the mixing zone?

Question 25- How will aquatic species be affected by the concentrations of toxics that would occur within the applicant's mixing zone?

Question 26- Has DEQ considered the potential cumulative or synergistic effect that high concentrations of multiple toxics in the proposed mixing zone may have? If so, where was this analysis done and what were the results. If not, why not and on what basis can DEQ conclude the

mixing zone will not result in acutely toxic conditions when these toxics are combined given the lack of any requirement for monitoring or WET testing?

4. Dissolved Oxygen

The proposed permit would allow the discharge of pollutants that would exacerbate existing violations of water quality standards for DO in violation of the CWA and the OARS. The PER recognized that DO levels in backwater portions of the Columbia near Clatskanie may fall before the cold water DO criteria, but failed to evaluate why in light of this further reductions in DO were permissible in the current permit. PER at 5.

Because these areas are the very areas important for rearing by salmon, steelhead and cutthroat trout, these are the very areas that DEQ needs to ensure will not be adversely affected by the proposed discharges.

Question 27- What information does DEQ have on existing DO levels in places like Bradbury Slough? What information does DEQ have on how areas like Bradbury Slough would be affected by the proposed discharges?

5. Conclusion

For the reasons above we believe that the proposed permit should not be issued as proposed and that additional site specific study and analysis is necessary prior to the issuance of this permit.

Sincerely,

Brent Foster

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November 25, 2002

Elliot J. Zais
Northwest Region
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2020 S.W. Fourth Ave., Suite 400
Portland, OR 97201 Via e-mail: zais.elliot@deq.state.or.us

Re: **Proposed Permit and Anti-Degradation Analysis for Port of St. Helens, Clatskanie, Oregon**

Dear Mr. Zais:

Northwest Environmental Advocates is writing to oppose the issuance of the proposed NPDES permit to the Port of St. Helens. While we are heartened to see, for the first time, the Department take seriously the requirement that the discharge of excess thermal loads be mitigated by the permittee, we believe much of the remaining analysis is incomplete. We are also pleased to see the Department conduct an antidegradation review, as required by law. This too, however, is incomplete and draws unsubstantiated conclusions. References below to "the proposed permit" include statements made in any or all of the three primary documents for this proposed action: 1) the proposed permit, 2) the fact sheet, and/or 3) the antidegradation analysis.

I. Requirements Applicable to Proposed Permit

Water quality standards referred to in federal and state regulations are defined as the designated beneficial uses in combination with the numeric and narrative criteria to protect those uses and an antidegradation policy. 40 CFR § 131.6. Numeric criteria adopted in water quality standards should be promulgated to protect the "most sensitive use." 40 CFR § 131.11(a)(1). However, since this is not always possible, the task of evaluating whether standards have been met also requires an assessment of the impact a discharge will have on the beneficial uses, both designated and existing. The U.S. Supreme Court underscored the importance of protecting beneficial uses as a "complementary requirement" that "enables the States to ensure that each activity -- even if not foreseen by the criteria -- will be consistent with the specific uses and attributes of a particular body of water." *PUD No. 1 of Jefferson County v. Washington Department of Ecology* 114 S. Ct. 1900, 1912 (1994). The Court explained that numeric criteria "cannot reasonably be expected to anticipate all the water quality issues arising from every activity which can affect the State's hundreds of individual water bodies." *Id.* There is a substantial body of information on the effects of toxic contaminants and of temperature on salmonids. Therefore, throughout its analysis of the permit, the Department is required to consider whether the beneficial uses are

protected, not just whether numeric criteria are exceeded.

Oregon's current numeric criteria have been developed, with extremely few exceptions (e.g., temperature and dissolved oxygen), to assess the "safe" level of pollutants to certain beneficial uses on a pollutant-by-pollutant basis. Nonetheless, these pollutants have additive and possibly synergistic effects on those uses. In addition, the "safe" level has been determined on the basis of what an ordinary population of a target species can tolerate. However, the populations of threatened and endangered, as well as candidate, species are not ordinary; they are severely depressed. As such they cannot be exposed to the same level of risk from pollutants, individually or collectively, as ordinary non-depressed populations. Specifically, the Department is required to apply the gap-filling narrative criteria, designated use support, and existing use protection requirements of its water quality standards using the knowledge that the populations as a whole are more sensitive to the effects of the various pollutants and that those pollutants have additive and possibly synergistic effects on the beneficial uses. This is consistent with Oregon's rules that prohibit discharges and activities that "either alone or in combination with other wastes or activities will cause violation of [state] standards." OAR 340-041-0445(2).

A. Protection of Existing Uses Pursuant to the Antidegradation Policy

The antidegradation policy requires the protection of "all existing beneficial uses." OAR 340-041-0026(1)(a). Oregon does not include "existing uses" in its definitions. OAR 240-041-0006. It can be assumed, however, Oregon intends the definition to be identical to the antidegradation policies required by federal law, that existing uses are those uses actually attained in the water on or after November 28, 1975. 40 CFR §131.12(a)(1), §131.3(e). Protection of those uses as well as the water quality necessary to support those uses is an absolute requirement. Nowhere in the proposed permit materials does the Department evaluate what the existing uses are, let alone what the impact of the proposed discharge would be on those existing uses. Therefore, the Department has not made the findings required to issue a permit that conforms with state and federal regulations.

B. NPDES Requirements

Where NPDES permits are issued, EPA regulations require that the effluent limitations incorporated therein meet any additional standards and state requirements. 40 C.F.R. §122.44(d). Specifically, "each NPDES permit shall include conditions meeting [w]ater quality standards and State requirements." *Id.* This section establishes the need for "any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under [other sections of the CWA] necessary to: (1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality." 40 C.F.R. §122.44(d)(1).

These required effluent limitations "must control all pollutants or pollutant parameters (either conventional, nonconventional or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. §122.44(d)(1)(i). In order to determine whether a discharge causes, has the reasonable potential to cause or contribute to an in-stream excursion above either narrative or numeric criteria, "existing controls on point and nonpoint sources, the variability of the pollutant or polluting parameter in the effluent * * * and where appropriate, the dilution of the effluent in the receiving water" must be accounted for. 40 C.F.R. §122.44(d)(1)(ii). In the case of the proposed discharge, the Lower Columbia River (LCR) violates a number of criteria and standards in addition to those on Oregon's §303(d)(1) list. Regardless of the Department's failure to formally place those waterbody/parameters on the list, it must evaluate whether assimilative capacity exists for those parameters, individually and combined, in evaluating and issuing the proposed permit.

C. Policy on New or Increased Loads

The permit proposes to allow a discharge of chlorine, an organochlorine-generating chemical, to the Lower Columbia River, already water quality limited for dioxin. In addition, it proposes to depress dissolved oxygen and increase temperature in a waterbody already water quality limited for dissolved oxygen and temperature. It proposes to add chromium and zinc to a waterbody found to be water quality limited for toxics. Therefore, the Department must make the following findings for those parameters:

> (A) The new or increased discharged load would not cause water quality standards to be violated;
>
> (B) The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial uses. * * *
>
> (C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited under OAR 340-041-0006(30)(a), unless:
>
> (i) The pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to violate water quality standards and being designated water quality limited; or
> (ii) Total maximum daily loads * * * have been established * * * or

(iii) Effective July 1, 1996, in waterbodies designated water-quality limited for dissolved oxygen, when establishing WLAs under a TMDL for waterbodies meeting the conditions defined in this rule, the Department may at its discretion provide an allowance for WLAs calculated to result in no measurable reduction of dissolved oxygen.

OAR-340-041-0026(3)(a).

II. The Proposed Permit will Contribute to Violations of Dioxin Exceedances and Narrative Criteria for Toxics

In Oregon "water quality limited" is defined as meaning a water falls into one of the following categories:

(a) A receiving stream which does not meet instream water quality standards during the entire year or defined season even after the implementation of standard technology;
(b) A receiving stream which achieves and is expected to continue to achieve instream water quality standard but utilizes higher than standard technology to protect beneficial uses;
(c) A receiving stream for which there is insufficient information to determine if water quality standards are being met with higher than standard treatment technology or where through professional judgment the receiving stream would not be expected to meet water quality standards during the entire year or defined season without higher than standard technology.

OAR 340-041-0006 (30). Pursuant to this definition, the LCR is water quality limited for dioxin, 2,3,7,8-TCDD. There is a Total Maximum Daily Load (TMDL), prepared by EPA, in place for this parameter. The existence of the TMDL does not alter the definition that the water does not meet water quality standards. The proposed facility is not expected to discharge dioxin. It is, however, expected to discharge chlorine, a chemical that combines with organic matter, present in the receiving stream, to produce organochlorines, including dioxin. Oregon's water quality standards prohibit include the following narrative criteria for toxics:

(i) The creation of * * * toxic or other conditions that are deleterious to fish or other aquatic life.
(j) The formation of * * * any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health * * *
(p)(A) Toxic substances shall not be introduced above natural background levels

> in the waters of the state in amounts, concentrations, or combinations which may be harmful, *may chemically change to harmful forms in the environment*, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare; aquatic life; wildlife; or other designated beneficial uses;

OAR 340-041-0445(2) (emphasis added). Despite the specific language in the last of these criteria, DEQ has entirely ignored the question of how much dioxin will be created in the Lower Columbia River from the proposed discharge of chlorine. Instead, the proposed permit merely concludes, without discussion or basis, that the narrative toxic criteria will be met. DEQ is obligated by its narrative criteria to evaluate the additional loading of dioxin that will be caused by the proposed discharge and evaluate whether it is allowed by the Columbia River Basin Dioxin TMDL. Until such time as the LCR comes into compliance with water quality standards for dioxin and toxics, whatever allocations for new sources contained in the TMDL cannot be used to permit a new source.

A. Increased Dioxin Formation in Addition to Conventional Exceedances Will Cause Violations of Oregon's Standards

In addition, this very same narrative criterion states: "Toxic substances shall not be introduced above natural background levels in * * * *combinations which may be harmful* * * * or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare; aquatic life; wildlife." OAR 340-041-0445(2)(p)(A) (emphasis added). The Department admits the Lower Columbia is known to be water quality limited for a number of toxic parameters, including DDT/DDE, PCB, and arsenic and likely dieldrin and PAH. The DEQ Decision Matrix for the 1998 §303(d)(1) list also found, among other toxic constituents, that arsenic, cadmium, chromium, copper, iron, mercury, nickel, silver, zinc, cyanide, tributyltin benzo(a)anthracene, benzo(g,h,i)perylene, chrysene, 4-methylphenol, pyrene, total PAHs, aldrin, alpha-BNC, delta-BHC, dieldrin, endrin, and DDD were found in elevated levels. Yet it has failed to evaluate the combination of these toxic contaminants to fish, wildlife, or people, including the people who consume fish from the river at high levels, according to surveys performed by the Columbia River Intertribal Fish Commission (CRITFC). The beneficial uses of bald eagles, river otters, and mink in the Lower Columbia River are already known to be measurably impaired by a combination of toxic contaminants, yet the Department has not evaluated compliance with its criterion that prohibits the addition of any toxic chemical that in combination with others adversely affects wildlife.

Whether pursuant to Oregon's prohibition, cited above, of discharges that "either alone or in combination with other wastes or activities will cause violation of [state] standards," or pursuant to the requirement to protect designated and existing uses, including threatened and endangered

species, DEQ is required to evaluate the combined effect of multiple pollutants in the proposed discharge, along with the existing contamination of the received water. The LCR is water quality limited for temperature and dissolved oxygen. Oregon 1998 §303(d)(1) List. Increased temperatures in the Lower Columbia River also affect other water quality parameters – conventional and toxic – and enhance the adverse effects of other parameters on the beneficial uses, particularly salmonids. Increased water temperature increase bacteria levels, a pollutant for which the Columbia is water quality limited. Concurrent violations of temperature and dissolved oxygen (DO) standards also cause increased risk to beneficial uses. Oregon Department of Environmental Quality, Final Issue Paper on Dissolved Oxygen, Appendix A-6, June 1995. Temperature also affects the uptake of toxic contaminants by uses because elevated temperatures decrease available DO in the water column. In addition, the biological demands on aquatic species increase with increasing temperatures. At lower DO levels, the amount of oxygen delivered to fish tissue decreases, restricting the ability of fish to maximize metabolic performance. *Id.* Low DO levels increase the acute toxicity of various toxicants such as metals and ammonia. *Id.* Low DO levels may compound the adverse effects of some toxicants. Alternatively, toxicants may increase sensitivity to low levels of DO. For example, the Department has provided an example of where a toxicant that damages the gill epithelium can decrease the efficiency of oxygen uptake. Also, several toxic contaminants increase oxygen consumption due to interferences with oxidative phosphorylation of pentachlorophenol and have the potential to increase sensitivity to low DO. *Id.*

The U.S. Environmental Protection Agency concurs that adverse impacts of toxicants may be compounded by low DO levels or may increase sensitivity to low DO levels. U.S. EPA, Biological Assessment of the Revised Oregon Water Quality Standards for Dissolved Oxygen, Temperature, and pH, September, 1998, at 63. EPA identified three mechanisms by which low DO and a toxicant in combination cause effects: 1) Increase gill ventilation associated with low DO can increase uptake of waterborne toxics, 2) Any toxic contaminant that damages the gill epithelium and decreases efficiency of oxygen uptake will increase sensitivity to low DO, and 3) a number of toxics, such as pentachlorophenol, increase oxygen consumption due to interference with oxidative phosphorylation. *Id.* Therefore, when elevated temperatures – which in the Columbia are elevated above an admittedly unprotective criterion – cause depleted oxygen levels, there are additive impacts with toxic contaminants. Oregon's water quality rules specifically contemplate the effect of multiple pollutants and the impact of complex stressors that combined are termed "pollution." OAR 340-041-0205(2)(p)(A). The Department must evaluate these pollution combinations and any others that cause violations of Oregon's water quality narrative criteria and beneficial use support requirements. OAR 340-041-0205(2)(i), OAR 340-041-0202. The Department must deny the proposed permit because the project will violate its rules. OAR 340-041-0205(2).

B. In Evaluating the Contribution of Dioxin and the Risks Posed to Beneficial Uses from Multiple Toxics, the Department Must Go Beyond its Numeric Criteria.

DEQ has determined the LCR to be water quality limited for the parameter "toxics." 1998 §303(d) list and Port Westward Evaluation Report at 12. State rules require that the Department analyze the combinations and changes of toxic substances in the environment as well as whether numeric criteria protect the most sensitive beneficial uses. OAR 340-041-0205(2)(p)(C)

The Department does not currently have sufficient information to make a finding that the proposed action will not cause a violation of water quality standards because it does not have sufficient information on the effect of toxic contaminants on some of the most sensitive beneficial uses, the threatened and endangered salmonids that depend upon the Lower Columbia River. *See* National Oceanic and Atmospheric Administration (NOAA) Preliminary Natural Resource Survey for the Lower Willamette River, September 8, 1999 at 18-19. If NOAA concludes that it cannot fully evaluate the individual and additive effects of multiple toxic pollutants on salmonids, the Department surely does not have a greater expertise that would allow it to do so at this time. In any case, none of the propose permit documents so much as reference the issue. Information on this subject is rapidly developing and the Department's understanding is likely far behind either NOAA's or the Science Center's. For example, not only must the Department analyze the likely effects on the species, it must evaluate likely exposure. The Science Center has pointed out that salmon prey "feed selectively on organic-rich particles that can be present at low levels in Columbia River sediments." Science Center memo at 8. This means that bulk sediment contaminant concentration data do not accurately reflect the potential for species to be exposed. Id. The Department cannot choose to ignore this information in applying its water quality standards.

In addition, the Department is well aware that some of its numeric criteria are not protective of uses under even ordinary circumstances as discussed elsewhere. These include the 68°F criterion for temperature, and 39 fresh and saltwater numeric criteria for aquatic life, including DDT, DDE, bromoform, cholorodibromomethane, endosulfan sulfate, endrin aldehyde, methyl bromide, pyrene, ammonia, aluminum, tributyltin, among others, many of which are found in the Lower Columbia River. *See* Oregon Department of Environmental Quality 1999-2002 Water Quality Standards Review, Draft Workplan, December 13, 1999, at 4-5 and materials prepared subsequently pursuant to that review. In other words, in conducting the evaluation of the effect of combined parameters in the proposed discharge, whether multiple toxics or toxics combined with conventionals, the Department must also take into consideration the insufficiency of its numeric criteria for assuring protection on an individual pollutant basis.

The Lower Columbia River violates Oregon's water quality standards for the toxic contaminants

PCBs, dioxins, DDE, and DDT. 1998 Oregon §303(d)(1) List Decision Matrix. In addition, the Department has identified elevated levels of toxic contaminants that it has determined do not violate state standards. *Id.* However, in making these determinations the Department has failed to properly apply its narrative criteria and beneficial use support requirements and has not complied with the Clean Water Act. In addition, the Department has failed to apply its narrative criteria in evaluating the effect of toxic contaminants individually on sensitive fish and wildlife in the estuary. For example, reproductive failure in bald eagles and likely reproductive failure in mink violate the narrative criterion that "[w]aters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities." OAR 340-041-0027. The Department has failed also to apply its narrative criterion and beneficial use support requirements to address the additive and/or synergistic effects of multiple toxic pollutants. This criterion requires that"[t]oxic substances shall not be introduced above natural background levels in the waters of the state in amounts, concentrations, or combinations which may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare; aquatic life; wildlife; or other designated beneficial uses." OAR 340-041-0205(2)(p)(A). The Department has not applied current scientific understanding of the effects of toxic exposure to salmonid in order to interpret its narrative criteria or beneficial use support requirements, as required by state law. OAR 340-041-0202, OAR 340-041-0205(2)(i). For these reasons, we base our discussion on pollutants that are formally listed on the §303(d)(1) list as well as other water quality standards that are violated but that the Department has yet to acknowledge.

The Department is required to evaluate data on use impairment related to levels of toxic contaminants, i.e. for pollutants that are at levels posing a risk to piscivorus wildlife such as eagles, mink and otter. Some of the information available is from tissue and wildlife health studies. For example, information that "river otter in the vicinity of RM 119.5 are in a critical or almost critical category based on reference level comparisons, abnormalities noted during necropsy, and histopathological observations of individuals," must be evaluated for compliance with water quality standards and to assess the impacts of the proposed project. The Health of the River 1990-1996, Integrated Technical Report, Tetra Tech, May 20, 1996, Figure 14, at 53 [hereinafter "Health of the River"]. This information is tied to toxic contaminants: "Concentrations of organochlorine insecticides, PCBs, and to a lesser extent PCDDs and PCDFs in the liver of river otters were highly correlated with each other and many were significantly related to baculum [penis bone] and testes size or weight." Id. at 52. Likewise, the Department is required to use the extensive information on reproductive failures of the Bald eagle in the Lower Columbia River. The Bi-State study noted that "Historically, some individual mink contained PCB concentrations known to make adult female mink in laboratory studies incapable of producing young." Health of the River at 52. Washington's 1996 303(d) list includes both

entries and listings for PCB-1254, arsenic, 4,4'-DDE, Dieldrin, and Bis-2-(ethylhexyl)phthalate based on the edible portions of white sturgeon tissue found in the Lower Columbia River. Both states shared the data from the Bi-State study upon which Washington's listings are based. As mentioned above, in addition to not having sufficient information about the extent of contamination in the estuary, the Department does not have the ability to fully evaluate the effects of this contamination. NOAA Survey, *supra*, at 18-19. However, in light of what information is available, it cannot make a finding that the proposed project will not cause violations of water quality standards for toxic pollutants.

The Department must use current information on sub-lethal effects of toxic contaminants on human and wildlife health. These effect include but are not limited to: reduced immunity from disease; permanent brain damage including decreased intelligence, motor skills, memory, eye-hand coordination and increased aggressive behavior; reduced male fertility; reduced penis size, a result found in Columbia River river otter; and abnormal sexual development (e.g., missing testis) and abnormal sexual behavior, among other effects. There are numerous studies on the effects of toxic contaminants that we incorporate by reference in these comments. To meet its burden under state law, the Department has an obligation to apply the results of all of them.

Studies done in Puget Sound on the impacts of contaminated sediments on juvenile salmon demonstrate they are at risk from even a short 3-week stay in a contaminated area. Fish studied suffered from impaired migration and swimming behavior and impaired immunity from disease. The Science Center concludes there is a risk to salmon from toxic contaminants: "Exposure to contaminants found in Columbia and Willamette River sediments, particularly to PAHs and PCBs, can affect the health of threatened or endangered salmon that utilize the LCR. Short-term exposure to PAHs and PCBs in contaminated estuaries, both through diet and through the water column, reduces disease resistence and growth rates of outmigrant juvenile chinook salmon in Puget Sound (Arkoosh et al. 1998; Casillas et al. 1995). Resuspension of these contaminants as a result of dredging would increase the risk of exposure through the water column or through contaminated prey. Reduced growth and increased disease residence reduce survival potential." NMFS Science Center memo at 8. Male trout with feminine traits have been found in British Columbia and a recent study has found that a pesticide appears to prevent Atlantic salmon from making the transition from freshwater to saltwater fish. Even low levels of pesticides can alter swimming and migration behaviors in ways that prevent fish from reaching the ocean or returning to their spawning beds. Additionally, certain pesticides can cause abnormal sexual development, preventing fish from reproducing and pesticides can alter the aquatic environment, for example by reducing the food supply available to salmon.

The Science Center also raises concerns that the Department must resolve concerning the screening levels to assess the potential hazards of contaminated sediments to salmon:

> The LCRMA screening levels used to assess potential hazards of dredged sediments may not be adequate to protect salmon. Recent studies of resident marine fish (Horness et al. 1998) and juvenile chinook salmon (Arkoosh et al. 1998) show that thresholds for contaminant effects in these species are lower than predicted from the aquatic bioassays which form the basis for many sediment quality criteria. For example the current LCRMA screening level criteria for LPAHs and HPAHs are 5,200 and 12,000 ng/g, respectively, resulting in an acceptable total PAH concentration for dredged sediments of 17,000 ppb. For PCBs, according to LCRMA standards, sediments are considered acceptable for open water disposal if concentrations are between 130 and 3100 ng/g. However, alterations in growth and immune function have been reported in chinook salmon from estuarine sites with average total PAH concentrations in sediment below 17,000 ppb, and total PCB concentrations between 130 and 3100 ppb (Arkoosh et al. 1998). Recent studies by the NMFS (Horness et al. 1998) show that threshold total PAH sediment concentrations associated with biological injury in marine fish are between 1000 - 5,000 ppb range. The sensitivity of Pacific salmon to contaminant effects is similar or greater than marine fish analyzed by Horness et al. (1998), based on studies cited above.

Science Center memo at 8-9. The Department cannot apply numeric criteria that are not protective of beneficial uses, including those that are threatened or endangered.

III. Temperature Analysis

A. The Absence of a TMDL for Temperature Precludes Issuance of a Permit for a New Source

The Department's regulations require that, among other findings, it must not grant a new or increased discharged load where a receiving stream is water quality limited under OAR 340-041-0006(30)(a), unless either the parameters are unrelated directly or indirectly or a TMDL has been established. The rule does not say that the mere development of a TMDL by either Oregon or EPA is sufficient grounds upon which to waive these requirements. Therefore, the Department cannot make the requisite finding and issue the permit.

A. The Department Must Apply Gap-Filling Measures to Compensate for the Inadequacy of the 68°F Criterion.

We strongly commend the Department for properly reading Oregon's standards to require mitigation of thermal loads in excess of the criterion. There are, however, a number of

significant oversights in the manner in which the standard is applied. First, regardless of the existence of the 68°F numeric criterion, it is well known that the criterion is not protective of salmonids, the expected most sensitive beneficial uses in the LCR. This is known to the Department because of: 1) EPA's 1999 disapproval of the identical criterion for identical uses in the Willamette River and 2) the second draft of EPA's Regional Temperature Guidance. Therefore, the Department is required to apply its gap-filling components of narrative criteria, existing use support, and designated use support requirements. There is no evidence of the Department having done so. Rather, it has blindly used the 68° criterion for all aspects of evaluating this permit.

The Department appears to suggest in the proposed permit that because the discharge is at low levels in the river, it will not be an issue for salmonids. To the contrary, there is ample evidence that migrating salmonids – the use at issue with this permit – are present at many levels in the Lower Columbia River and may be more likely to be found at lower levels in seeking to avoid high surface water temperatures. Adult salmon have been found at depths of 16 meters below the surface and juvenile at 30-40 feet below the surface, both below Bonneville Dam. EPA Region X places huge reliance on the presence of cold water refugia in its new proposal to set the numeric criterion at 68°F for the lower rivers, such as this. Therefore, the Department must evaluate the true impacts of this proposed discharge on migrating salmonids rather than concluding that because it has created a mixing zone it need not conduct further evaluation. In addition, there is no reference to any impact the discharge could have on bottom-dwelling fish, such as sturgeon.

The Department has not analyzed compliance with the narrative criterion to protect threatened and endangered species from high temperatures. Citing the requirement is not the equivalent of ensuring that it is met. DEQ should conduct an appropriate analysis of these species, remembering that the analysis should be done for smolts and adults separately.

A. No Temperature Management Plan is Included in the Permit

A Temperature Management Plan (TMP) is required for this facility. OAR 340-41-026(3)(a)(D)(i). Such a TMP is a part of a source's NPDES permit. OAR 340-41-026(3)(a)(D)(iv). The Department does not appear to disagree. Yet, it has postponed the development of the TMP for three years after the issuance of the permit. The Department does not have the discretion to waive this requirement until a future date because the rule requires that for waters designated as water quality limited for temperature, which the LCR is, the requirement of a TMP "shall" apply, unless waived. OAR 340-41-026(3)(a)(D). The Department has not waived the development of a TMP. Further, where a new discharge is into a water quality limited stream not only does the Department need to show, at a minimum, that the discharge will fit into a 1°F cumulative increase for the entire Columbia River Basin, but that the discharge will

not "conflict or impair the ability of a surface water temperature management plan to achieve the numeric temperature criteria." OAR 340-41-026(3)(a)(F)(i). How can the Department make this finding when the TMP has not yet been prepared, let alone "implemented" for the Basin, as referenced in OAR 340-41-026(3)(a)(F)?

Moreover, in EPA's July 22, 1999 approval of Oregon's temperature standard it determined that OAR 340-41-026(3)(a)(F) was a variance procedure, subject to 40 C.F.R. §131.20, §131.21, and §131.10(g), addressing the need to conduct a public process, submit the variance to EPA for approval or disapproval, and conduct a Use Attainability Analysis. There is no reference to any of these procedures in any of the proposed permit materials notwithstanding that the permit would be adding a portion of the 1°F cumulative increase in temperature discussed in the standards that provide for new loadings to waters water quality limited for temperature.

In the permit review materials, DEQ states that the requirements of OAR 240-41-026(3)(a)(A) have been met, namely that the "new or increased discharged load would not cause water quality standards to be violated." This is absurd. This section of the rules applies to waters that are currently high quality, as it is OAR 240-41-026(3)(a)(C) that applies to water quality limited parameters. Even so, the Department bizarrely concludes that "all water quality standards contained in OAR 340-041-0205 would be achieved" despite the LCR's failure to currently meet standards. This is repeatedly stated elsewhere, including the statement that "beneficial uses [will be] protected," which is patently false since the uses are not currently protected in the absence of the proposed discharge. The mere nature of the waterbody being water quality limited for so many parameters means that the beneficial uses are not protected and standards are not met. The Department may be attempting to say that this proposed source will not cause the existing impairments but it is not true to say that water quality standards will be achieved.

Oregon's temperature standards state that the numeric 68°F and narrative criteria apply "unless specifically allowed under a Department-approved surface water...." We assume that the Department arrives at the conclusion that the increase from the proposed permit is allowed because, presumably, there will be no "measurable surface water temperature increase" in the Columbia River (which has exceedances of the 68°F numeric criterion), in waters determined to be ecologically significant cold water refugia (the lower levels of the LCR could be deemed to be cold water refugia for migrating salmonids), in segments containing threatened and endangered salmonids (the LCR does). This supposed lack of measurable increase, therefore, prevents the Department from getting to the condition that a TMP have been developed and approved prior to the approval of an action that allows the temperature increase. If it did get to this point, the permit would have to be rejected because there is no TMP that has been approved by the Department. So, why does the Department not conclude that this proposed discharge will not cause a measurable increase, defined to mean "an increase in stream temperature of more than 0.25°F? The reason is that its analysis confuses the intent of the temperature standard -- in which

de minimus sources defined by the level of scientific sensitivity are allowed to discharge -- with its rules on mixing zones. Here, the Department does not seek to suspend a portion of its temperature standards, namely the prohibition against exceeding the numeric criterion, within the mixing zone, but rather it seeks to suspend the entire temperature standard outside the mixing zone. This is in error, however, as the language of the standard does not say that a specific activity is disallowed but rather anthropogenic activities in general that would cause a measurable increase are disallowed. The proposed discharge will be measurable at the point of discharge and therefore triggers the requirement for a TMP. The Department cannot interpret its rules to allow for measurability at the edge of a mixing zone which it can manipulate freely at its discretion because that would render the temperature standard essentially meaningless.

IV. Mixing Zone

DEQ's rules require that any mixing zones, in which all or a part of water quality standards are suspended, meet the condition that the water outside the boundary of the mixing zone: "[b]e free of materials in concentrations that will cause chronic (sublethal) toxicity" and "[m]eet all other water quality standards under normal annual low flow conditions." OAR 340-41-0205(4)(b)(B). In this case, the water outside the proposed mixing zone is not free of materials that cause sublethal toxicity. In fact, the Department has listed the LCR as water quality limited for violating toxics standards. The LCR has also been listed as water quality limited for temperature because of exceedances of the 68°F numeric criterion, a criterion that has been rejected by EPA as not supporting migration of salmonids because "for migrating adults and smolts, 68F causes physiological and behavior effects that can lead to mortality of those life stages and their progeny." Letter from Randall F. Smith, U.S. EPA Region X to Michael T. Llewelyn, DEQ dated July 22, 1999 at 23. Therefore, the water outside the mixing zone can neither be free from materials in concentrations causing chronic toxicity nor can it meet all other water quality standards under normal annual low flow conditions.

If the Department applied its own regulations as they read, it would prohibit mixing zones in water quality limited waters. This would be consistent with the majority of other permitting authorities whose standard practice, according to EPA Region X, when "dealing with permitting in impaired waters in the absence of approved TMDLs....is to calculate effluent limits based on meeting criteria at the end-of-pipe and allow for compliance schedules, if authorized by the state."

The permit materials conclude: "The Department's literature review indicates that the proposed placement, design, and size of the mixing zone will not likely impair salmonids." This sentence is its own paragraph, in other words it is not supported by any information. First, this does not provide any support for the idea of issuing a variance, as discussed above. Second, it does not allow for the Department to make the judgment that this discharge will not be incompatible with

a TMP (that has not yet been prepared). Third, it does not address whether this water should be determined to be a cold-water refugia used by threatened and endangered salmonids, pursuant to OAR 340-41-0205(2)(b)(A)(vi). Fourth, it does not address whether the increase would "impair the biological integrity of the Threatened and Endangered population" of species that exist in the segment as required by OAR 340-41-0205(2)(B)(A)(vii). Given the lack of information, there is no ability of the public to determine if the Department has complied with requirements for mixing zones, such as that it: 1) be as small as feasible; 2) "minimize adverse effects on the indigenous biological community especially when species are present that warrant special protection for their economic importance, tribal significance, ecological uniqueness, or for other similar reasons as determined by the Department and does not block the free passage of aquatic life;" or 3) minimize adverse effects on other designated beneficial uses outside the mixing zone. OAR 340-41-0205(4)(c)(A), (C) & (E). That the Department conducted a "literature review" is simply not reassuring.

Mitigation required for the excess heat load should take place prior to issuance of the permit and prior to the discharge. Instead, DEQ proposes that mitigation in the form of shade not be developed until year 4 of operation. Mitigation does not have a particularly good history of success. In fact, that is generally why agencies which require mitigation require more than a ratio of 1:1 for the expected impact. In this instance, both a higher ratio of mitigation to impairment should be required and the mitigation should be required to be established prior to the discharge.

V. Dissolved Oxygen

The Department readily admits that the LCR is listed as water quality limited for dissolved oxygen. Nonetheless, in an attempt to circumvent the clear rules set out in its standards and general policies, it seeks to divorce the segment listing from the exact location of the proposed discharge and to minimize the additional load. It concludes the drop in DO will be "negligible." State rules do not provide for a waiver of the rules at OAR 240-41-026(3)(a)(C) based on the size of the loading contribution. Instead, the rule prohibits – "shall not be granted" – new loads unless the parameter to be discharged is unrelated, directly or indirectly, or a TMDL has been established. Here, the parameter is related directly and no TMDL has been established. Therefore, no additional loading can be granted, regardless of its size. Moreover, the Department has no rules that provide for de-listing a segment because a segment has been inconveniently listed. The "stream is classified as being water quality limited," in the language of the Oregon rule, regardless of various locational data.

The permit has been put out for public comment prematurely. In addition to the incomplete analysis discussed above, the lack of a TMP, the permit materials also note that the "Applicant is continuing to refine their (sic) outfall design," meaning both that the Department's analysis of

how the discharge will or will not affect beneficial uses is not yet complete, and that the public is not being allowed to comment on the final proposal. DEQ justifies this approach with the comment that "[we] expect any revision will also meet these conditions." Clearly, if the Department were allowed to take the position that the public should just trust its judgement, no permit would ever be put out for public comment. This issue should be resolved prior to issuance for public comment, not after.

VI. Miscellaneous Permit Conditions

The DEQ Decision Matrix for the 1998 §303(d)(1) list states that: "Arsenic, Cadmium, Chromium, Copper, Iron, Mercury, Nickel, Silver, Zinc, Cyanide and Tributyltin were found in elevated levels in sediments..." For chromium, DEQ found "[s]ediment chromium concentrations ranged from 14.8 to 31.1 mg/kg with concentrations exceeding Ontario's lowest effect level of 26 mg/kg at 2 of 15 backwater sites." For zinc, DEQ found: "[s]ediment zinc concentrations ranged from 68.3 to 155 mg/kg with concentrations exceeding Ontario's lowest effect level of 120 mg/kg at 4 of 15 backwater sites. 2 of 54 main stem study sites exceeded the guidance values in 1991. The LCR was not listed for either zinc or chromium, which apparently was the basis for a truncated evaluation in this proposed permit by DEQ. EPA Region X has made it clear, however, in a recent letter to the Washington Department of Ecology, that the §303(d)(1) listing status of a waterbody is the beginning, not the end, of an appropriate evaluation of a water quality based effluent limit: "...any valid receiving water data must be considered in the development of effluent limits, regardless of whether or not the data is sufficient for 303(d) listing purposes." The Department has failed to evaluate the data on chromium and zinc outside the §303(d)(1) listing process, an action that is particularly necessary given: 1) the Department's inadequate numeric criteria for toxics, 2) the Department's overly restrictive §303(d)(1) listing criteria which requires, among other things, bioassays for sediment samples, and 3) its failure to evaluate all toxic parameters together pursuant to its narrative criterion on toxics. Instead, the Department has issued limits and required only annual grab samples of wastewater for monitoring. Instead, the Department should be requiring an extensive sediment study prior to issuance of the permit.

The schedule for permit conditions (Schedule D, 1. Mitigation Conditions) should not include a prospective mitigation plan and prospective riparian project. These should be required as a part of the initial NPDES permit. The mitigation should not be allowed to fixed for the duration of all subsequent renewals of the permit. DEQ does not even know what its temperature standard for the LCR will look like in the future, nor the TMDL, nor the restrictions on existing sources of temperature pollution to the LCR; how can it bind itself in <u>all</u> subsequent permits? No holder of an NPDES permit has this kind of assurance. In addition, the schedule says the Department "may" require additional mitigation if there are increased excess discharges whereas it should read "shall." The monitoring portion of this project is key. The timing of monitoring should be

tied at least to the permit renewal schedule with a maximum of 5-year increments in reporting, rather than the 10 year increments set out in the proposed agreement. Finally, we believe that purchase of senior instream flows should be allowed as a mitigation project.

The Mitigation Agreement should be enforceable by citizens in the same fashion as any other NPDES permit condition. We agree with the method of calculating the mitigation standards but disagree that a 1:1 ratio is sufficient. Particularly given that this is a new load into an impaired stream, and that it is the first such mitigation project, the Department should build in assurances that the load reductions will be achieved. Increasing the ratio is the best way to do that beyond the conditions that have been included in the permit.

VII. Conclusion

In conclusion, while there are many inadequacies in the proposed permit evaluation that require the Department to revise its analysis and go through the public process a second time, we are please to see two improvements: 1) the very first ever antidegradation review prepared by Oregon, and 2) the use of the requirement that point sources are required to mitigate their excess thermal loads. The deficiencies, however, require that DEQ prepare a more thorough analysis of whether the proposed discharge will meet Oregon and federal rules and a new public comment period for review of those new conclusions. Moreover, the Department needs to make clear its intentions with regard to applying to EPA for a variance, an action that would also trigger consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act.

Sincerely,

Nina Bell
Executive Director

Attachment B, Exhibit 3
EQC, January 30-31, 2003
Agenda Item G

Re: Port of Saint Helen's Industrial Park Discharge

The Oregon Department of Environmental Quality has asked the Oregon Department of Fish and Wildlife (ODFW) for its recommendations and concerns with the installation of an effluent discharge diffuser in the Columbia River for the Port of Saint Helen's Industrial Park. ODFW understands that a power generation facility will be discharging non contact cooling water at a rate of between 5 and 7 cfs and that the discharge's main pollutants of concern would be temperature and chlorine.

Although elevated water temperatures can affect the health of fish, especially salmonid species, the dilution ratio of the discharge to the Colombia River is such that ODFW does not foresee this discharge in and of itself affecting the salmonid species who either use or migrate by the discharge point. ODFW is concerned about the cumulative effect of increasing temperatures in the river. The Columbia River does at times exceed the water quality standards for temperature and ODFW would expect that when a Total Maximum Daily Load is established for the Columbia that this discharge will be included in the load allocation and that the discharger will be developing a Temperature Management Plan to address its contribution to the temperature problems on the Columbia.

The diffuser should be place in such a manner as to minimize the effects on fish in the river. Specifically,

- Adult returning salmon tend to follow the banks as they migrate upstream. The diffuser should be place far enough out in the river to avoid blocking upriver migration either through thermal or physical means. ODFW would recommend burying the discharge pipe in the river bottom;
- The diffuser should be located where the water depth is more than 30 feet (10 meters) deep to avoid affecting salmon smolt out migration. Studies show that most out migrating smolts and juveniles occur in the top 30 feet of the river.
- The diffuser should be place in an area where the river freely flows, rather than in a backwater or where eddies occur where the water temperature may increase due to the poor circulation of the effluent;
- The diffuser should not be located in close proximity to spawning beds;
- Although ODFW has a limited amount of information on sturgeon and the effect of temperature on their health it appears that deep holes in the Columbia are used more frequently by juvenile sturgeon, especially during the summer months. Therefore, ODFW would recommend that after applying protection strategies to minimize impacts to salmonids that the diffuser minimize the impact on sturgeon by avoiding uniquely deep holes in the area where the diffuser is to be located. To further reduce any impacts to sturgeon the diffuser flow should be directed upward and down stream to avoid having the effluent flow along the bed of the river.

Thank you for allowing ODFW to comment on the proposed permit. If you have further questions please contact me at 503-8725255 ext. 5426.

Attachment B, Exhibit 3
EQC, January 30-31, 2003
Agenda Item G

Sincerely;

Rick Kepler
Water Program Manager
Habitat Divsion

TO: Elliot J. Zais, Oregon DEQ
Northwest Region
2020 S.W. Fourth Avenue, Suite 400
Portland, OR 97201
FR: Evan Alexander Fidis
DT: November, 25th 2002
RE: Comment on Port of St. Helens' Application for NPDES Permit.

The Port of St. Helens' application for a National Pollution Discharge Elimination System (NPDES) permit, if approved, will violate the United States and Oregon's Anti-Degradation Policies. The Port of St. Helens has proposed construction of a new wastewater collection and outfall system, a major source that will discharge heat loaded wastewater directly into the Mile 72 to Mile 95 reach of the Columbia River. The approval of this permit and subsequent construction of the wastewater facility will be in direct violation of Section 301 of the Clean Water Act (CWA), Title 40 of the Code of Federal Regulations (CFR), and Chapter 340 of the Oregon Administrative Rules (OAR). Additionally, the United States Environmental Protection Agency (EPA) is currently developing a Total Maximum Daily Load (TMDL) for temperature in the Columbia River. Approving this permit in absence of EPA's final TMDL would undermine the agency's efforts to protect the Columbia, its aquatic and riparian species, and the beneficial uses of the river.

The Federal Clean Water Act

The Clean Water Act was passed in 1972 to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251. A critical part of the CWA is section 303(d), which uses a water quality based approach to ensure that appropriate standards are in place for every impaired waterbody. Section 303(d) imposes duties on both the States and EPA. The States are responsible for identifying Water Quality Limited Waterbodies (WQLW) that fail to meet EPA's water quality standards (WQS), and prioritizing these WQLW based on the severity of pollution and their beneficial uses. In turn, EPA is expected to review the States actions to ensure they meet federal standards, and offer assistance when needed.

Columbia River is a Water Quality Limited Waterbody

The Columbia River has been classified as a Water Quality Limited Waterbody for both Temperature and Dissolved Oxygen, by Oregon's Department of Environmental Quality (DEQ) and Washington's Department of Ecology (DOE). Listed as a WQLW, the Columbia should be subject to strict state and federal anti-degradation standards.

The designation of the Columbia River as a WQLW for temperature means that there are certain segments of the river which fail to meet the established WQS for temperature. The EPA has determined one of these segments to be the Mile 72 to Mile 95 stretch of the Columbia; the same segment the Port of St. Helens' proposed discharge will enter. Approving this permit will increase the water temperature, further lowering the quality of the already impaired segment in violation of water quality standards.

Anti-Degradation
Anti-degradation policies are meant to provide protection to existing water quality, including circumstances where the water quality equals or is better than the established water quality criteria. Anti-degradation policies are a critical component of water quality standards. To put it another way, anti-degradation prevents the water quality from being worsened, whether the existing state of the water falls under, or over, set water quality standards. Anti-degradation policies are essential in maintaining the integrity of our nation's waters, and are of utmost importance for waterbodies like the Columbia, whose poor water quality threatens the existing uses of the river.

Federal Anti-Degradation Policy
The Federal Government Anti-Degradation Policy aims to prevent new or increased discharges that would lower the quality of waters that are already substandard. Under 40 C.F.R. § 122.4(i), the issuance of permits to new point source dischargers is prohibited if the proposed discharge will "cause or contribute to the violation of water quality standards." DEQ recognizes that Port of St. Helens' proposed wastewater facility will "contribute" to Mile 72 to Mile 95's violations, but justifies approval of this permit stating the adverse impacts of the heat loaded discharge will be negligible. The degree or severity of the adverse impact is not an element of § 122.4(i). Stated simply, this regulation prohibits *any* discharge that will deteriorate the quality of an impaired waterbody, regardless of the severity of impact.

The strict interpretation of § 122.4(i) as prohibiting *any* discharge, is supported by the allowance of an exemption consisting of two requirements. Supported by this exemption, the regulation must be read as strictly prohibiting *any* new point source discharges that will "contribute to the violation of water quality standards," *unless* the discharger can demonstrate that the an exemption is permissible. The exemption requires that there be; (1) available pollutant load allocations, or a reserve capacity to offset the discharge, and (2) a schedule to bring the segment into compliance.
Until the EPA completes the Columbia's temperature TMDL with implementation plans, neither of these two criteria can be satisfied. Thus §122.4(i) prohibits *any* discharge that will deteriorate existing water quality including the discharge at issue here.

40 C.F.R. § 122.4 also allows the director of the permitting process to exempt a new point source discharger from § 122.4. As stated "the Director may waive the submission of information by the new source or new discharger…if the Director determines that the Director already has adequate information to evaluate the request." The purpose of this section is to expedite the exemption process by allowing the Director to use "adequate information" readily available to them, rather than requiring the discharger to follow the formal submission process, through which the discharger must demonstrate that they meet the requirements. Using available and "adequate information," the Director may find the discharger meets the requirements and grant the exemption. The requirements for discharge, including anti-degradation and water quality standards, however, must still be met. With this proposed permit, it is again evident that without a finalized TMDL, the "adequate information" which DEQ could use to grant an exemption, is unavailable.

Oregon's Anti-Degradation Policy

Oregon's Anti-Degradation Policy is intended to guide DEQ's permitting decisions by requiring that DEQ prevent unnecessary point and non-point pollution loads "...to protect, maintain, and enhance existing surface water quality to protect all existing beneficial uses." OAR 340-041-0026(1)(a). If the waterbody is water quality limited, DEQ *must* find that the increased load "would not cause water quality standards to be violated" and that the increased load "would not unacceptably threaten or impair any recognized beneficial uses." OAR 340-041-0026(2) and (3). Accordingly, there are two primary objectives under Oregon's Anti-Degradation Policy; (1) to preserve the integrity of water quality, and (2) to protect existing beneficial uses.

Integrity of Water Quality

Oregon's Anti-degradation Policy strictly prohibits new or increased discharges that will lower the water quality of WQLW, unless one of the four exceptions under OAR 340-041-0026(3)(c)(i)-(iv) is satisfied. This permit fails to satisfy any of the exceptions necessary to obtain an exemption from Oregon's Anti-Degradation Policy.

The first exception states the proposed discharge will be allowed if it does not relate "directly or indirectly" to the pollutant for which the waterbody is limited. OAR 340-041-0026(3)(c)(i). This permit is for a proposed wastewater facility that will discharge heat loaded water into a segment of the Columbia River which is water quality limited for temperature. Therefore the permit does not satisfy this anti-degradation exception.

The second exception would allow a new or increased discharge into a WQLW only if a TMDL determining waste load allocations and load allocations has been established, and a reserve capacity has been identified. If the reserve capacity allows room for an increase in the waste load allocations, then the proposed discharge would satisfy the exemption. As noted earlier, EPA has yet to release the finalized TMDL for temperature in the Columbia. In absence of a finalized TMDL, the reserve capacity of the Mile 72 to Mile 95 segment of the Columbia has not been ascertained. This exception only allows for a new or increased discharge if "...there will be sufficient reserve capacity to assimilate the increased load..." OAR 340-041-0026(3)(c)(ii). Without knowing the reserve capacity available for heat loaded discharge, the permit clearly cannot satisfy this exception.

The third exception focuses only on dissolved oxygen and does not directly apply to the primary concern of this proposed discharge.

The fourth allowable exception under Oregon's Anti-Degradation Policy was established to respond to "extraordinary circumstances to solve an existing, immediate, and critical environmental problem." OAR 340-041-0026(3)(c)(iv). This proposed permit clearly does not constitute an "extraordinary circumstance[s]" or a "critical environmental problem" stipulated by the administrative rules. Rather the proposed permit is intended to support the waste discharge of three new major facilities. If anything, this proposed facility will create an "environmental problem," not solve one.

Until EPA releases a finalized TMDL for temperature, the Port of St. Helens' proposed facility will not satisfy any of the four exceptions allowed under Oregon's Anti-Degradation Policy. For the purposes of this review, and until the EPA releases the TMDL, consideration of this proposed facility should be in strict compliance with Oregon's Anti-Degradation Policy. This Policy clearly states that in order to approve any proposed permit for a new discharge, DEQ would have to find that the "discharged load would not cause water quality standards to be violated." OAR 340-041-0026(3)(a)(A). DEQ acknowledges that construction and operation of this facility will result in discharges of heat loads into a temperature limited segment of the Columbia. Although DEQ has forecasted that the effects of this discharge will be negligible, it will still contribute to the Columbia's continued violation of water quality standards, and therefore the permit should be denied pursuant to Oregon's Anti-Degradation Policy.

Beneficial Uses
The Clean Water Act requires states to protect the most sensitive beneficial uses in affected waters. Oregon's Anti-Degradation Policy supports this goal of the CWA by prohibiting new or increased discharge loads unless it finds that the increased load "would not unacceptably threaten or impair any recognized beneficial uses." OAR 340-041-0026(3). In their draft TMDL the EPA identified three sensitive beneficial uses on the Mile 72 to Mile 95 stretch that would be negatively impacted by an increase in temperature;

(1) Anadromous Fish Passage
(2) Salmonid Fish Rearing
(3) Salmonid Fish Spawning

Although these are not the only uses that would be effected by the construction and operation of a new major point source discharge, but as EPA determined, they are the most sensitive.

Under OAR 340-041-0026(3)(a)(D), no measurable surface water temperature increase is allowed "in a basin for which salmonid rearing is a designated beneficial use…" While DEQ purports that the measurable increase will be negligible, the increase is still prohibited under Oregon's Anti-Degradation Policy, having a negative impact on an established beneficial use.

These beneficial uses put forth by the EPA, have also been acknowledged by DEQ and DOE. In September of 2000, DEQ and DOE jointly denied the Army Corp of Engineers request for state agreement on their proposed plan to deepen the channel of the Columbia River. In the 2000 letter to the Army Corp, DEQ Director Langdon Marsh specifically identified the negative impact on beneficial uses, particularly the impact on endangered salmon and steelhead, as a primary reason for denial of the Corps request. DEQ and DOE's denial of the Army Corps request was the right course of action pursuant to state and federal anti-degradation policies. Approving the Port of St. Helens' proposed permit would be an unlawful application of these policies and a step in the wrong direction.

DEQ's Anti-Degradation Directive

In March 2001, DEQ released the *Anti-Degradation Policy Implementation Internal Management Directive for NPDES Permits*. This directive established methods and directions to be used in implementing Oregon's anti-degradation policy. The guidelines laid out in this directive apply directly to the Port of St. Helens permit application, and should be strictly followed.

The directive asserts that if a "proposed activity would likely result in any measurable change in water quality away from conditions unimpacted by anthropogenic sources (outside the mixing zone, if existing), then the proposed activity will be considered to likely result in a lowering of water quality." Simply stated, the directive recognizes that *any* "measurable change" occurring outside the mixing zone will be considered as lowering the water quality. DEQ's assertion that the impact of the proposed wastewater facility will be negligible does not change the fact that its discharges will lower water quality, and should therefore be prohibited.

In dealing with WQLW, the directive strictly reasserts the Oregon Anti-Degradation Policy stating that if a new or increase discharge is proposed, this discharge must be prohibited unless the provisions of OAR 340-041-0026(3) apply. As noted above, these provisions do not apply to St. Helens' proposed permit.

EQC and DEQ Should Wait for EPA's Draft TMDL

Pursuant to the CWA states must develop TMDLs for waterways that are listed under § 303(d). For the Columbia River, both DEQ and DOE have deferred their authority to set TMDLs for temperature to the EPA. Both Departments cited the interstate nature of the water and lack of departmental resources, as the primary reasons for deferment to the EPA.

The Columbia River's Interstate Nature & Economy

The Interstate nature of the Columbia is factor that should weigh heavily on approval of this permit. The Columbia River is the second largest river in the United States, running through the states of Idaho, Washington, and Oregon. These states all have a significant interest in preserving the water quality and integrity of the Columbia, to maintain the health of the river and preserve all beneficial and existing uses. Once EPA releases the finalized TMDL, limits will be set on what the states and their communities can do to affect the river temperature. Each action that degrades the water quality of the Columbia, will impact all states ability to maintain beneficial and existing the uses of the River. The approval of this permit should not be made without consideration of the economic effects that construction and operation of this facility will have the upstream communities of Idaho, Washington, and Oregon.

In *Arkansas* v. *Oklahoma*, the United States Supreme Court held that EPA has the authority to impose upstream permit limitations based on downstream water standards. 501 U.S. 91 (1992). This is pursuant to 40 C.F.R. § 122.4(d) that states "No permit shall be issued… [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states."

In developing a temperature TMDL, EPA takes into account the water quality downstream, when developing upstream waste load allocations. Currently, the Port of St Helens, located on the lower Columbia River on the Mile 72 to Mile 95 segment, is water quality limited for temperature. Issuing a permit that would increase the Columbia's downstream temperature, will have a direct negative impact on the load allocations of the upstream communities. The upstream communities will find their ability to develop economic facilities undercut by the actions of communities downstream, who choose to take more than their share.

Currently there are 106 facilities that discharge heat loads on the entire length of the Columbia. Of these 106 facilities, 95 are minor sources and 11 are major. Of the 11 major sources, 3 are already located in the Mile 72 to Mile 95 segment of the Columbia. In approval of this permit, Port of St. Helens would hold 4 of the 12 (25%) of the major heat load discharges on the Columbia River. Not only will this restrict the development of communities upstream, but it will also serve to concentrate a serious point source pollutant, compounding the temperature problem already faced by the Mile 72 to Mile 95 stretch. Prohibiting the construction and operation of this new major facility will protect upstream load allotments, and help to alleviate the concentration of major polluters on the Columbia.

Lack of Departmental Resources
Both DEQ and DOE noted that a primary reason for their deferment to the EPA to establish a temperature TMDL for the Columbia, was due to lack of departmental resources. Both departments recognized they would not be able to effectively establish the needed allocation criteria to preserve the integrity and quality of the Columbia. At DOE and DEQ's request, the EPA stepped in to establish the temperature TMDL. This is an essential reason why it is necessary to wait until EPA releases the finalized TMDL. EPA's oversight and decision-making based on science and the current river conditions should be construed as not only the most accurate, but the most up to date. Decisions such as approval of this permit, which will adversely affect the temperature of the Columbia, should not be made until they are back by the appropriate and current science needed to ensure that the correct decision is made. If Washington and Oregon together were incapable of using their resources to establish an appropriate TMDL, how can DEQ be deemed as having the necessary information and resources to determine that approval of this permit will only result in a negligible temperature increase? Furthermore the nature of a TMDL is to consider the health and use of the entire river, and does not solely focus on the impact for one small segment. DEQ's analysis on the effects of this proposed facility should not be considered without backing from the EPA's finalized TMDL.

It is the policy of the Environmental Quality Commission to protect aquatic ecosystems from adverse surface water warming caused by anthropogenic warming of surface waters. OAR 340-041-0120(11)(a). Approving this permit will not "protect aquatic ecosystems from adverse surface water warming." *Id.* I urge the EQC to consider the negative environmental effects that construction of this facility, in a Port that is already laden with industry. Accordingly this permit should be denied. Furthermore, we urge the EQC to

adhere to Oregon and Federal Law, and apply the enacted anti-degradation policies to a project that obviously warrants their implementation.

Sincerely
Evan Alexander Fidis

Attachment C, Exhibit 1
EQC, January 30-31, 2003
Agenda Item G
DRAFT 13 January 2003

Permit Number:
Expiration Date:
File Number: 111746

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT
Department of Environmental Quality
Northwest Region Office
2020 Southwest Fourth Avenue, Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

Port of St. Helens
PO Box 598
St. Helens, Oregon

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Process Wastewater	001	RK 85

PLANT TYPE AND LOCATION:

Wastewater Collection System
Port Westward Industrial Site
Clatskanie, Oregon

RECEIVING STREAM INFORMATION:

Basin: North Coast/Lower Columbia
Sub-Basin: Lower Columbia/Clatskanie
Stream: Columbia River
Hydro-code: 10=-COLU 53 D
County: Columbia

EPA REFERENCE NUMBER: OR 004085-1

Issued in response to Application No. 986433 received 26 February 2002

Robert P. Baumgartner, Manager
Water Quality Source Control, Northwest Region

Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a waste water collection, treatment, control and disposal system and discharge to public waters adequately treated waste waters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

a. Outfall 001: Wastewater Discharge to Columbia River

Parameter	7-Day Moving Average	30-Day Moving Average	Peak (2 hour average)
Excess Heat Load[1] 1 June – 15 October	4.46 MW	3.58 MW	----
pH	Must not be outside the range of 6.5 – 8.5	Must not be outside the range of 6.5 – 8.5	Must not be outside the range of 6.5 – 8.5
Temperature[2] 1 June – 15 October	27 °C	26 °C	32 °C

[1] Excess heat load is heat loads above the applicable criteria (68 °F (20 °C)) which shall be calculated as follows.

Heat transfer per unit time equals density of water times flow rate times specific heat times temperature difference. Heat transfer is in units of megawatts (MW) or megajoules/second (MJ/s).

$H = (1000\ kg/m^3)(Q\ m^3/s)(4182\ J/(kg\ °C))(\Delta T)(1\ W/(1\ J/s))(1\ MJ/1000\ J)$, where ΔT = effluent temperature (expressed as the 7-day or 30-day moving average temperature, as applicable) – 20 °C. If ΔT is less than or equal to zero, the excess heat load will be reported as zero for that period.

For example, the projected excess heat load at full buildout using a 7-day average temperature of 29.67 °C and an average flowrate of 5.23 cfs or 0.148097 m^3/s will be:

$H = (1000\ kg/m^3)(0.148097\ m^3/s)(4182\ J/(kg\ °C))(9.67\ °C)(1\ W/(1\ J/s))(1\ MJ/10^6 J) = 5.99\ MW$

[2] Daily average temperature is the arithmetic average of temperatures taken every 30 minutes throughout a 24-hour day. The 7-day moving average temperature is the average of 7 consecutive daily averages. If there is no flow on a given day, that day is to be skipped for the averaging. The 30-day moving average is calculated similarly.

b. The Permittee shall require all dischargers that are subject to 40 CFR Part 423 (steam electric power generators) to comply with the following conditions as applicable to their discharges upstream of the point of discharge into the Permittee's system.

i) Once Through cooling water

Parameter	Monthly Average	Daily Maximum
Total Residual Chlorine[3]	0.15 mg/L	0.38 mg/L

[3]Chlorine must not be discharged for more than two hours on any day. The permittee shall prohibit dischargers to its system from discharging cooling tower blowdown during chlorination.

ii) Cooling Tower Blowdown prior to mixing with other waste streams

Parameter	Monthly Average	Daily Maximum
Free Available Chlorine	0.15 mg/L	0.38 mg/L
Total Chromium	0.2 mg/L	0.2 mg/L
Total Zinc	1.0 mg/L	1.0 mg/L

iii) Low Volume Waste Sources[3].

Parameter	Monthly Average	Daily Maximum
Total Suspended Solids	30 mg/L	100 mg/L
Oil & Grease	15 mg/L	20 mg/L

[3] Low volume waste sources means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume waste sources include, but are not limited to: wastewater from wet scrubber air pollution control system, ion exchange water treatment system, water treatment evaporator blowdown, floor drains, cooling tower basin cleaning wastes, and re-circulating house service water systems. Sanitary and air conditioning wastes are not included.

There must be no addition of polychlorinated biphenyl compounds to process wastewater.

2. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-041-0202 through -0215 except in the following defined mixing zone:

The size of the mixing zone is:

30 meters horizontally in any flow direction from the diffuser.

The size of the zone of initial dilution (ZID) is:

3.5 meters horizontally in any flow direction from the diffuser.

3. Temperature Management Plan

a. The effluent limitations and other conditions in this permit related to temperature shall constitute the surface water temperature management plan (temperature management plan) required by OAR 340-041-0026(3)(a)(D) and 340-041-0120 (11)(e)(C)applicable to the permittee. Provided that the permittee complies with this temperature management plan, the permittee shall be deemed to be in compliance with the state temperature water quality standard and not be deemed to be causing or contributing to a violation of the water quality standards for temperature.

b. The permittee shall install (or require dischargers to the permittee's system to install) one or more influent/effluent heat exchangers to reduce the temperature of waste water before it is discharged. The permittee will operate (or require dischargers to the permittee's system to operate) the influent/effluent heat exchangers June 1 through October 15 each year commencing the first year that wastewater is discharged under this permit.

c. The permittee shall comply with the mitigation requirements set forth in condition D.1. Once approved by DEQ, the Mitigation Plan and Mitigation Agreement described in Condition D.1.b.B shall become part this Temperature Management Plan.

SCHEDULE B
Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

1. Outfall Number 001

Item or Parameter	Minimum Frequency	Type of Sample
Chlorine	Continuous	Monitor
Temperature*	Continuous	Monitor
pH	Continuous	Monitor
Heat Load	Continuous	Calculated
Flow rate**	Continuous	Meter

*Half-hourly readings will be used for calculating average temperatures and heat loads as described above.

**Flow will be totalized daily. The daily flowrate will be the totatlized flow divided by the total flow time within a 24-hour period from midnight to the following midnight.

2. Discharges to Permittee's System

The Permittee will require discharges subject to Condition A.1.b to monitor and report to the Permittee the following parameters for the wastewater streams described in Condition A.1.b, as applicable:

Item or Parameter	Minimum Frequency	Type of Sample
Chlorine	Continuous	Monitor
Total Chromium*	Annually	Grab
Total Zinc	Annually	Grab
Total Suspended Solids	Monthly	Grab
Oil and Grease	Monthly	Grab

The Permittee shall include the monitoring results submitted by dischargers in its monitoring reports to the Department.

SCHEDULE D
Special Conditions

1. Mitigation Conditions

a. Duty to Mitigate

During the first three years of this Permit, the Permittee shall evaluate the performance of influent/effluent heat exchangers to reduce the discharge of excess heat load. If the use of the heat exchangers is shown to be successful in reducing or eliminating excess heat load discharged to the Columbia River, the permittee can propose permit modifications with new wasteload allocations. If by December 31, 2005, the permittee demonstrates that no excess heat load will be discharged under this permit and requests in writing that the Department modify this permit to include effluent limitations that do not allow the discharge of excess heat, then the requirements of these mitigation conditions shall no longer apply. Otherwise, the Permittee shall implement a heat load mitigation project in accordance with the schedule and requirements set forth in these mitigation conditions.

b. Schedule

The permittee shall:

A. By December 31, 2005, identify a specific riparian vegetation restoration project within the watershed (Columbia River watershed within Oregon) and submit to DEQ for review a draft Mitigation Plan (as defined in Condition D.1.c), Mitigation Agreement (as defined in Condition D.1.d) and request for modification of the heat load effluent limits in this permit , consistent with the mitigation standard set forth in Condition D.1.e.

B. Develop a final Mitigation Plan and Mitigation Agreement and submit them to DEQ for approval within 30 days of receiving Department comments on the plan. Upon approval by DEQ these documents shall become part of an updated Temperature Management Plan (TMP).

C. Enter into the approved Mitigation Agreement and fully fund the mitigation project within 180 days of DEQ approval of the Mitigation Plan and Mitigation Agreement. Once the permittee has entered into the approved Mitigation Agreement and fully funded its obligations under the Mitigation Agreement, its mitigation obligations shall be fully satisfied under this permit. The Mitigation Agreement also shall satisfy any mitigation requirements in subsequent renewals of this permit for as long as the mitigation project is maintained. In the event of any changes to the discharge that increase excess heat load above the levels mitigated under these special conditions, additional mitigation shall be required by the Department only with respect to the increased heat load.

c. Mitigation Plan

The Mitigation Plan shall include the following components:

A. Description of the location of the riparian restoration project by water body, river mile and legal description.

B. A planting plan, including vicinity map, plan view drawing, cross section drawing, and plant list. Specifications for construction/installation of the riparian vegetation

C. The schedule for initial planting and riparian restoration tasks.

D. Calculations demonstrating that the mitigation standards identified below in Condition D.1.e. will be met by the mitigation project.

E. A maintenance plan describing how the plants will be maintained and providing for replacement of plants if survival rate is not as great as the survival rate assumed in the calculations described in Condition D.1.c.D above.

F. Monitoring to confirm implementation of the Mitigation Plan in accordance with its terms. The plan will specify the parameters to be monitored, which shall include a biologist's assessment of plant growth rate and survival. The initial monitoring shall be conducted in the first year following completion of the initial planting and shall be repeated in years 2, 3, 5, 8, and 10 and every 10th year thereafter through the life of the mitigation project. A monitoring report will be submitted to the Department by December 31 in each year monitoring is required. The monitoring report will describe the results of the monitoring and any planting, maintenance or plant replacement conducted since the last monitoring report.

G. Description of the mechanism by which the mitigation site will be protected from uses not consistent with the intent of the mitigation, until the mitigation requirements are met.

H. A description of the real property rights that have been or will be acquired to provide access to the mitigation site, including easements, equitable servitudes, fee title or other rights.

d. Mitigation Agreement.

The permittee shall enter into a Mitigation Agreement with a reputable land or water conservation organization or governmental entity (the "Conservation Entity") to implement the Mitigation Plan. The Mitigation Agreement shall include at least the following terms:

A. A commitment by the Conservation Entity to fully implement the Mitigation Plan in accordance with its terms, including the initial planting and long-term maintenance, monitoring and reporting.

B. A provision that the Mitigation Agreement is enforceable by the Permittee and the Department and any successor agency. A breach of the Mitigation Agreement by the Conservation Entity shall not be deemed a violation of this permit by the permittee.

C. Terms describing the total amount of funding necessary for the mitigation project and the schedule and payment terms for how the permittee will provide that funding.

D. A commitment by the Conservation Entity to hold in trust the project funding and the necessary real property rights for the mitigation site for the benefit of the Department, the public and the permittee for at least the term of the mitigation project.

E. A requirement that the Conservation Entity will cause to be recorded in the county real property records a memorandum describing the Mitigation Agreement.

e. Mitigation Standards

The intent of the mitigation project is to offset the estimated aggregate excess heat load that the permittee will discharge during the water quality limited period of the Columbia River at the discharge (July, August, and September) over 40 years, which is the estimated life of the projects that initially will be discharging wastewater to the permittee for discharge under this permit.

A. The Estimated Aggregate Excess Heat Load under this permit shall be calculated as the 40-year sum of the average excess heat load over the 20°C standard projected for the temperature water quality limited season. The estimate shall be based on the temperature and heat load discharged over the first three years of this permit, adjusted to reflect projections for future operations of the sources generating (or projected to generate) the effluent discharged under this permit and long-term meteorological data. The Estimated Aggregate Excess Heat Load shall include any excess heat load actually discharged prior to date this projection is made.

B. The Projected Heat Load Reduction to the water body at the mitigation site shall be calculated as the amount of solar radiation blocked by shade trees from the surface area of the project stream over a 40-year period. The mitigation value of the mitigation project shall be the sum of the Projected Heat

Load Reduction over the 40-year life of the mitigation project, taking into consideration the time necessary for plants to mature to the point of providing the projected levels of shading.

C. The Projected Heat Load Reduction over the life of the mitigation project shall be at least as great as the 40-year Estimated Aggregate Excess Heat Load of the discharge described in paragraph D.1.e.A above.

D. Upon approval of the Mitigation Plan, the Department will modify this permit to revise the temperature and excess heat load limits set forth in Condition A.1.a consistent with the Estimated Aggregate Excess Heat Load, which modification may include the addition of a limit on aggregate excess heat load for each temperature water quality limited season.

Additional Conditions

2. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good in plant control and quick and proper action in the event of a spill or accident

3. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of the collection and treatment system. This person must have access to all information pertaining to entire system, including all data generated.

4. Reopening of Permit. This permit may be reopened and modified or reissued to incorporate one or more waste load allocations (WLAs) resulting from a Total Maximum Daily Load (TMDL) for any of the parameters associated with the permittee's discharge. Nothing in this condition shall limit reopening of this permit for reasons specified in Schedule F, General Conditions. Nothing in this condition shall abridge the public process associated with permit modification or reissuance.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

In addition, a person who unlawfully pollutes water as specified in ORS 468.943 or ORS 468.946 is subject to criminal prosecution.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall 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.

4. 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 shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, 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; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants 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.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which 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 which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, 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 shall not be 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.

3. Bypass of Treatment Facilities

a. Definitions

(1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which 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 unless:

(a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;

(b) 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

judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The permittee submitted notices and requests as required under General Condition B.3.c.

(2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. 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 B.4.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 shall 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 D.5, hereof (24-hour notice); and

(4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include 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 event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.

(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and

(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. 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.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall 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 shall 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.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The 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 shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by 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.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall 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.

6. 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 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of 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, 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 the Director at any time.

9. Records Contents

Records of monitoring information shall 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.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative 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.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. 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 the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. 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 shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall 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;

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

a. Any unanticipated bypass which exceeds any effluent limitation in this permit.

b. Any upset which exceeds any effluent limitation in this permit.

c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall 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.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Information

A person who supplies the Department with false information, or omits material or required information, as specified in ORS 468.953 is subject to criminal prosecution.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**

The permittee must provide adequate notice to the Department 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 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 shall 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.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**

The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.

2. TSS means total suspended solids.

3. mg/l means milligrams per liter.

4. kg means kilograms.

5. m^3/d means cubic meters per day.

6. MGD means million gallons per day.

7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.

8. FC means fecal coliform bacteria.

9. 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 340-41.

10. CBOD means five day carbonaceous biochemical oxygen demand.

11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.

12. Quarter means January through March, April through June, July through September, or October through December.

13. Month means calendar month.

14. Week means a calendar week of Sunday through Saturday.

15. Total residual chlorine means combined chlorine forms plus free residual chlorine.

16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.

17. POTW means a publicly owned treatment works.

(May 1998)

PORT OF ST. HELENS INDUSTRIAL OUTFALL TEMPERATURE MANAGEMENT PLAN BACKGROUND

Prepared for

The Port of St. Helens

Prepared by

David Evans and Associates, Inc.

September 11, 2002
Amended and Restated December 13, 2002

PORT OF ST. HELENS INDUSTRIAL OUTFALL TEMPERATURE MANAGEMENT PLAN BACKGROUND

Prepared for

The Port of St. Helens
PO Box 598
St. Helens, Oregon 97051

Prepared by

David Evans and Associates, Inc.
2100 SW River Parkway
Portland, Oregon 97201

September 11, 2002
Amended and Restated December 13, 2002

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1 INTRODUCTION

The Port of St. Helens (Port) has applied for a National Pollutant Discharge Elimination System (NPDES) permit to allow discharge of up to 7 cubic feet per second (cfs) from industrial facilities located at its Port Westward Industrial Park. The application requests discharge of water up to 32° Celsius (C), with an excess heat load of up to 4.46 megawatts (MW) as a 7-day moving average. This request is based on the projected discharges of three currently proposed industrial facilities and a fourth, currently unplanned, facility that may be located at the Industrial Park in the future. A site plan of the Port Westward Industrial Park and the proposed facilities is shown in Figure 1.

The Oregon Department of Environmental Quality (DEQ) rules require a temperature management plan (TMP) for facilities that have a permitted heat load to a water that is limited for temperature. It is important to note that, while the Port will own the outfall and will be the NPDES permittee, the processes that generate heat are part of private industrial plants. Another unique aspect of this outfall facility is that the industrial plants will come on line at different times, making it necessary to phase implementation of certain aspects of the TMP. The Port has developed this background document to support the development of enforceable effluent limits, treatment requirements, and mitigation requirements that will constitute the TMP. The TMP also describes the framework actions the Port will require of the industries to manage heat loads discharged to the Port's system.

2 SUMMARY OF EXISTING INFORMATION

Much of the information required to support a TMP has already been submitted to DEQ in various reports on the proposed facility.

2.1 NPDES APPLICATION

The Port provided DEQ a complete NPDES application (DEA 2002d) on April 4, 2002. The application described the Port's proposed outfall system, the type of facilities that are currently proposing to locate at Port Westward, and their wastewater characteristics. A major portion of the application was dedicated to reviewing potential discharge technologies and their various environmental and economic costs. This feasibility (alternatives) analysis was expanded and refined in *Port of St Helens Industrial Outfall Alternatives Analysis* (DEA 2002c). This analysis evaluated the environmental costs and the cost-effectiveness of alternative discharge methods, and is intended to be considered as part of the Port's overall temperature management planning.

Figure 1 Site Plan

2.2 DILUTION RATIO STUDY

A Dilution Ratio Study (DEA 2002b) was prepared to evaluate the mixing characteristics of the Columbia River at the location of the proposed discharge. Because of favorable mixing characteristics and a very small discharge in comparison to the receiving water flow, it was demonstrated that *no measurable increase in temperature would occur outside of a small mixing zone* and that the discharge will *not cause a measurable increase in stream temperature.* Additional detail regarding the mixing zone, and the supporting CORMIX modeling, can be found in the Dilution Ratio Study report and DEA memorandum dated July 18, 2002, which proposes the mixing zone boundaries.

2.3 BIOLOGICAL ASSESSMENT

The Biological Assessment (BA) (DEA 2002a) prepared for this project describes the seasonal presence and life stages of salmonid species that may occur in the project area. Because of the depth, location, and design of the diffuser for the proposed project, the BA concludes that the proposed project is *not likely to adversely affect* temperature sensitive listed or proposed anadromous salmonids or their critical habitat.

3 PROPOSED TEMPERATURE MANAGEMENT PLAN

3.1 ALLOTMENT OF PORT'S WASTELOAD ALLOCATION - PHASING OF DISCHARGES

Obtaining the NPDES permit is a necessary part of development of the Port Westward Industrial Park, and will help attract and retain industrial development on the property. As such, the NPDES permit will represent a valuable Port asset. Accordingly, the Port intends to allot its permitted heat load prudently among the various users.

The three proposed industrial facilities have characterized their heat discharges (Table 1). In addition, the potential temperature-related characteristics of a fourth plant are estimated and included in the proposed discharge. The estimates from the various projects were made taking into consideration heat load reduction measures to be employed by each of the projects independently. Based on these estimates, when all four projects are fully operational, the maximum 7-day average excess heat load will be 4.46 MW and the maximum 30-day average heat load will be approximately 3.584 MW.

Although these industrial projects are in various states of design, enough information is known about how they will operate to conduct a conceptual analysis of how heat load may be managed in their discharge. Each project will incorporate heat management features to reduce, recycle and/or control the waste heat in its effluent. Submitted as a separate report is the feasibility analysis for the Port's system, taking into account the feasibility of waste heat management options available to the individual projects at a

conceptual level. The wastewater characteristics set forth in Table 1 are based on this conceptual level feasibility analysis.

Table 1 Temperature-Related Wastewater Characteristics

	Flow 7-day Average 30-day Average	Maximum 7-day Average Temperature	Maximum 30-day Average Temperature	Excess Heat Load
Cascade Grain Products	1.1 cfs 1.0 cfs	27° C	26° C	7 day average 0.9 MW 30-day average 0.7 MW
Portland General Electric	1.8 cfs 1.7 cfs	28 ° C	27° C	7 day average 1.7 MW 30-day average 1.4 MW
Summit Westward	1.5 cfs 1.4 cfs	27 ° C	26° C	7 day average 1.3 MW 30-day average 1.0 MW
Future	0.7 cfs 0.6 cfs	27 ° C	26° C	7 day average 0.6MW 30-day average 0.5 MW
Total/Average	**5.1 cfs 4.7 cfs**	**27.3° C**	**26.3° C**	**7 day average 4.5 MW 30-day average 3.6 MW**

The industrial facilities will come on line over a period of years. Therefore, the entire amount of permitted heat load will not be discharged until all four projects are operational. Consistent with the Port's intent to prudently allocate the permitted heat load between the various projects, the effluent limits for waste heat discharge by the system will include steps based on the number of projects discharging to the system. The effluent limit initially applicable to the system will be set at a level that will accommodate any one of the projects. As additional projects come on line, the effluent limit will be increased according to steps set forth in the following table. Because the sequence for completing the projects is not certain, the steps in the table are established based on the largest heat load projects being completed first and the smaller sources later. This approach will accommodate any sequence of project completion.

The 7-day average temperature and 30-day average temperature will depend on which plant(s) is operating. Any of the plants can be shut down for maintenance or other reasons, affecting the average discharge temperature upward or downward from the average temperatures sited in Table 1. Therefore, we propose that the temperature limits not change as additional projects come on line and that the permitted 7-day average temperature be 27° C and the 30-day average temperature be 26° C.

Table 2 Proposed Phasing of Port's Maximum Allowable Discharge Relative to Industrial Plant Connection to the Outfall System

	Flow (cfs) 7-day 30-day Average	Cumulative 7-day Average Excess Heat Load	Cumulative 30-day Average Excess Heat Load
First Plant	1.8 1.7	1.7 MW	1.4 MW
Second Plant	3.5 3.1	3.0 MW	2.4 MW
Third Plant	4.6 4.1	3.9 MW	3.1 MW
Fourth Plant	5.1 4.7	4.5 MW	3.6 MW

Notes:

(1) Flow will be monitored as a daily average. The 30-day average will be calculated by averaging the daily flows. Days with no flow will be included in the 7-day and 30-day average as zero.

(2) Temperature will be recorded on 30-minute intervals. The daily average temperature will be calculated as the average of all temperature readings for each day. The 7-day and 30-day moving average temperatures will be calculated as the average of the average daily temperatures.

(3) Excess heat load for each day during the period the river is water quality limited for temperature will be determined by subtracting the 20° C numeric water quality standard from the average temperature of the effluent for that day. The 7-day and 30-day excess heat load moving averages will be based on the calculated heat load for the individual days. If a calculation results in an excess heat load value of less than zero, the result will be recorded as zero for that day and included in the 7-day and 30-day averages.

3.2 HEAT EXCHANGER/MITIGATION

To reduce the temperature and overall heat load of the discharge, one or more influent/effluent heat exchangers will be installed. Heat exchangers are a proven technology. In this application, it would use plant make-up water (drawn from a well and/or surface water) as a cooling source for the effluent. A plate and frame heat exchanger works by conducting warm wastewater through a labyrinth of metal plates. On the opposite side of the plates, cooler well water or river water would be routed. Heat would be transferred through the metal plates. The two flows would not commingle. Because the relative quantities of river and well water as the source of makeup water is unknown at this time, and because the long-term temperature of the well cannot be predicted until it is constructed and in use, the exact amount of potential cooling cannot be quantified. The temperature and heat loads set forth on tables 1 and 2 above do not

reflect the heat load and temperature reductions likely to be achieved by the use of the heat exchanger(s).

It is likely that a single heat exchanger owned and operated by the Port would be constructed to treat the discharge of all industrial facilities at Port Westward. However, it may be decided that each of the industrial facilities will construct a heat exchanger to control their individual discharges to the Port system. In the event that the Port owns and operates a single heat exchanger, it will be designed and constructed with the outfall system, and be on line when the first plant goes on line. In the event that the individual facilities elect to operate their own heat exchangers, each will be constructed by the facilities and will be operational before discharge is allowed to the Port outfall system. It is proposed that the heat exchanger be operated during times when the Columbia River may exceed the 20° C temperature standard.

Once the heat exchanger system(s) are constructed and has been operational for a full summer season or until December 2005, whichever occurs later, the temperature and heat load reductions achievable will be better understood. At that point, the temperature and heat load limits in the permit will be modified and, if necessary, a mitigation plan will be prepared to offset any remaining excess heat load. It is possible that the heat exchanger(s) will consistently reduce effluent temperatures below the 20° C standard, thus eliminating excess heat load to the Columbia River. If the Port determines that the 20o C standard can be consistently met, the Port will ask for the NPDES permit to be revised to set limits that do not allow the discharge of excess heat load averaged over a reasonable period. If there is excess heat load, mitigation will be provided to offset that load over a 40-year period, which is the upper end of the 25 to 40-year projected life of the industrial facilities that will discharge to the Port's system. Additional information on heat load monitoring and mitigation is included in Section 4 below.

3.3 INDUSTRIAL FACILITY FEASIBILITY STUDIES

The Port will require industrial facilities that utilize the outfall to reduce waste heat to the extent feasible. Each facility will be required to prepare a facility-specific feasibility analysis prior to connection to the Port's system, for the Port's review and approval. The feasibility analysis will evaluate various alternatives for reducing the waste heat to be discharged to the Port's system and will include a proposed heat management strategy. Before connection to the Port's system, each project will have to implement a heat management strategy based on the feasibility analysis approved by the Port. The feasibility analyses will consider the following, for implementing cost-effective projects at the facilities that reduce heat loading:

- reducing the introduction of waste heat to the effluent
- recycling and eliminating or reducing part of the effluent

- recycling selected waste streams to reduce the thermal load discharged
- directly removing heat load from waste water and transferring it back to the process

The feasibility analysis will prioritize the controls and processes that are feasible for reducing heat load and include criteria to rank the potential heat load reduction options. The criteria will include, but are not limited to, technical feasibility, reliability, cost per unit of heat load reduced, and collateral environmental effects. The feasibility of implementing the steps on a seasonal or year-round basis will also be evaluated.

Following receipt of the feasibility analysis and proposed heat load strategy from a prospective discharger, the Port will review it and, taking into consideration the factors outlined above, will either approve the analysis and proposed strategy or suggest revisions that will be necessary before allowing the discharge. Once approved by the Port, the Port will enforce the heat reduction strategy in accordance with the terms of its waste management agreement with the projects. Following approval of the feasibility analysis and heat management strategy for each project, the Port will submit the approved document to the Department for its files.

The Summit/Westward Project is further advanced in design than either Cascade Grain or PGE. Therefore, the discussion on temperature management contained in the Alternatives Analysis (submitted simultaneously with this document) contains all the elements required by this section. Summit's analysis is intended to comply with the requirement for submittal of a feasibility analysis from each plant to the Port of St Helens.

4 MONITORING AND REPORTING

4.1 PORT OF ST. HELENS EFFLUENT MONITORING AND REPORTING

The Port will monitor the discharge from its outfall as required in Schedule B of its NPDES permit. This will include monitoring for flow, temperature, and heat load daily.

The water quality monitoring location is expected to be in the pump station wet well shown on Figure 1. The wet well temperature sensor will transmit to a data logger located at the pump station control panel. The data logger will log temperatures at 30-minute intervals. In its report to DEQ, the Port will include the data collected by the individual industrial facilities, required as described below. The effluent temperature readings collected at 30-minute intervals will be compiled into daily average temperatures, which will be used to produce running 7- and 30-day average temperatures that will be provided to DEQ with its monthly Daily Monitoring Reports. All Port Westward temperature data will be provided to DEQ in both paper and electronic format. The USGS data will be provided in its available format.

The Port will use the temperature monitoring data to project the annual excess heat load estimated to be discharged from the outfall when all the projects are in operation. Mitigation to offset that heat load will be developed, per the conditions in the NPDES permit. Mitigation will be in the form of riparian plantings that will provide shade for surface waters within the basin. Monitoring of the mitigation site will also be conducted as required in the permit.

4.2 INDUSTRIAL FACILITIES EFFLUENT MONITORING AND REPORTING

The Port will require the industrial facilities to monitor and report their effluent discharges to the Port's outfall system. The sampling will occur at a point upstream of the connection with the system, but downstream of all process and treatment elements of the facilities. The proposed industrial monitoring locations will be submitted to the Port for review and approval prior to connection to the Port's outfall system. The facilities will monitor their discharges for the same parameters, by the same methods, and at the same intervals as required of the Port in Schedule B of the NPDES permit. This will include daily flow, temperature, and heat load.

5 REFERENCE LIST

David Evans and Associates, Inc. (DEA). 2002a. *Biological Assessment for the Port of St. Helens Industrial Outfall.*

_____. 2002b. *Dilution Ratio Study Effluent Mixing Zone Study for the Proposed Port of St. Helens Outfall.*

_____. 2002c. *Port of St Helens Industrial Outfall Alternatives Analysis.*

_____. 2002d. *Port of St. Helens Industrial Outfall National Pollutant Discharge Elimination System (NPDES) Permit Application.*

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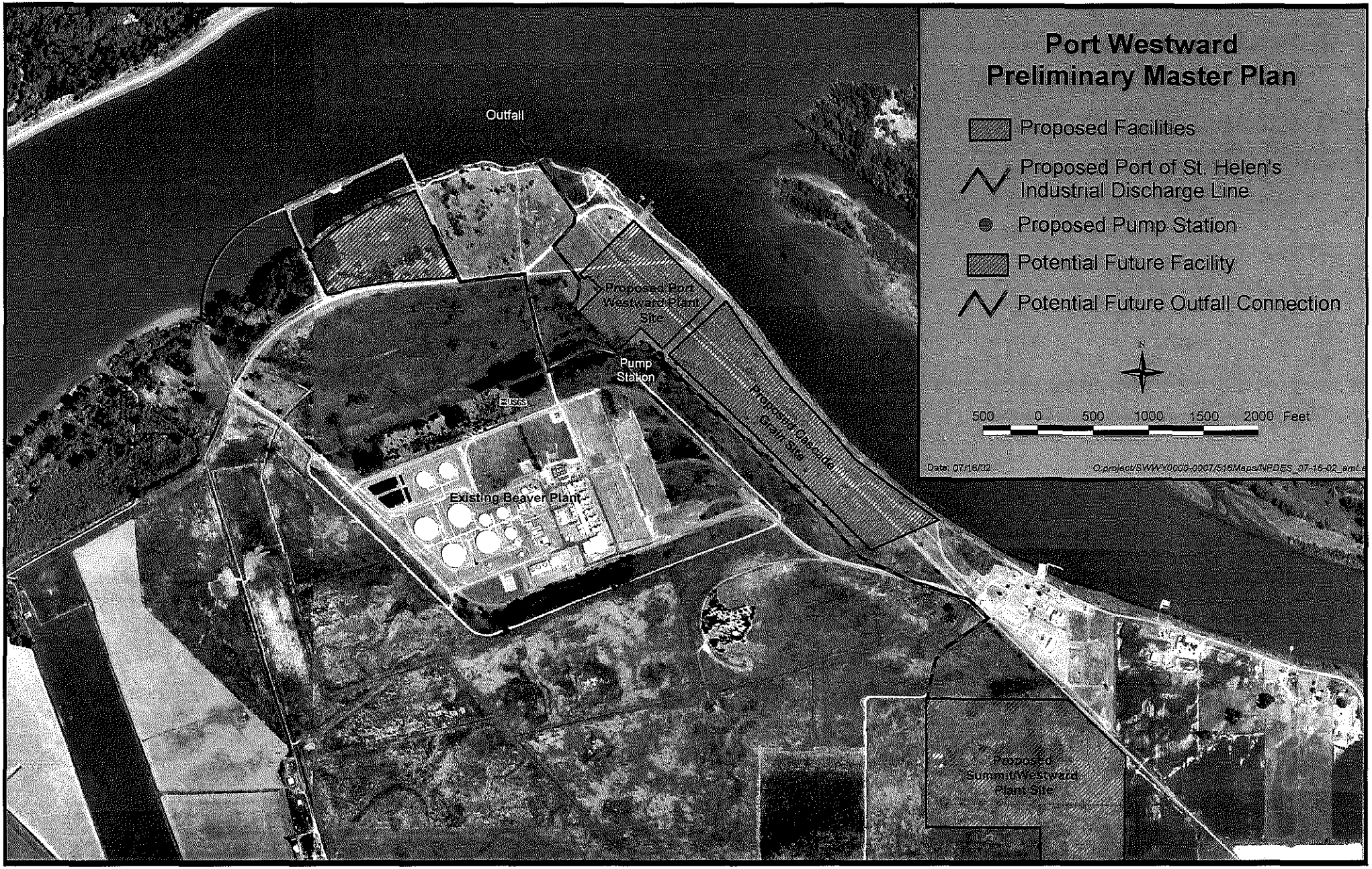
Port Westward
Preliminary Master Plan
Proposed Facilities
Proposed Port of St. Helen's Industrial Discharge Line
Proposed Pump Station
Potential Future Facility
Potential Future Outfall Connection
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500 0 500 1000 1500 2000 Feet
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Outfall
Proposed Port Westward Plant Site
Pump Station
Proposed Discharge Outfall Site
Existing Beaver Plant
Proposed Summit Westward Plant Site

Attachment D
EQC, January 30-31, 2003
Agenda Item G
PUBLIC NOTICE DRAFT 24 October 2002

Permit Number:
Expiration Date:
File Number: 111746

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT
Department of Environmental Quality
Northwest Region Office
2020 Southwest Fourth Avenue, Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

Port of St. Helens
PO Box 598
St. Helens, Oregon

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Process Wastewater	001	RK 85

PLANT TYPE AND LOCATION:

Wastewater Collection System
Port Westward Industrial Site
Clatskanie, Oregon

RECEIVING STREAM INFORMATION:

Basin: North Coast/Lower Columbia
Sub-Basin: Lower Columbia/Clatskanie
Stream: Columbia River
Hydro-code: 10=-COLU 53 D
County: Columbia

EPA REFERENCE NUMBER: OR 004085-1

Issued in response to Application No. 986433 received 26 February 2002

Robert P. Baumgartner, Manager
Water Quality Source Control, Northwest Region

Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a waste water collection, treatment, control and disposal system and discharge to public waters adequately treated waste waters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

a. Outfall 001: Wastewater Discharge to Columbia River

Parameter	7-Day Moving Average	30-Day Moving Average	Peak (2 hour average)
Excess Heat Load[1] 1 July – 30 September	4.46 MW	3.58 MW	----
pH	Must not be outside the range of 6.0 – 9.0	Must not be outside the range of 6.0 – 9.0	Must not be outside the range of 6.0 – 9.0
Temperature[2] 1 July – 30 September	27 °C	26 °C	32 °C

[1] Excess heat load is heat loads above the 20 °C standard which shall be calculated as follows.

Heat transfer per unit time equals density of water times flow rate times specific heat times temperature difference. Heat transfer is in units of megawatts (MW) or megajoules/second (MJ/s).

$H = (1000\ kg/m^3)(Q\ m^3/s)(4182\ J/(kg\ °C))(\Delta T)(1\ W/(1\ J/s))(1\ MJ/1000\ J)$, where ΔT = effluent temperature (expressed as the 7-day or 30-day moving average temperature, as applicable) – 20 °C. If ΔT is less than or equal to zero, the excess heat load will be reported as zero for that period.

For example, the projected excess heat load at full buildout using a 7-day average temperature of 29.67 °C and an average flowrate of5.23 cfs or 0.148097 m^3/s will be:

$H = (1000\ kg/m^3)(0.148097\ m^3/s)(4182\ J/(kg\ °C))(9.67\ °C)(1\ W/(1\ J/s))(1\ MJ/10^6 J) = 5.99\ MW$

[2] Daily average temperature is the arithmetic average of temperatures taken every 30 minutes throughout a 24-hour day. The 7-day moving average temperature is the average of 7 consecutive daily averages. If there is no flow on a given day, that day is to be skipped for the averaging. The 30-day moving average is calculated similarly.

b. The Permittee shall require all dischargers that are subject to 40 CFR Part 423 (steam electric power generators) to comply with the following conditions as applicable to their discharges upstream of the point of discharge into the Permittee's system.

i) Once Through cooling water

Parameter	Monthly Average	Daily Maximum
Total Residual Chlorine[3]	0.2 mg/L	0.5 mg/L

[3] Chlorine must not be discharged for more than two hours on any day. The permittee shall prohibit dischargers to its system from discharging cooling tower blowdown during chlorination.

ii) Cooling Tower Blowdown prior to mixing with other waste streams

Parameter	Monthly Average	Daily Maximum
Free Available Chlorine	0.2 mg/L	0.5 mg/L
Total Chromium	0.2 mg/L	0.2 mg/L
Total Zinc	1.0 mg/L	1.0 mg/L

iii) Low Volume Waste Sources[3].

Parameter	Monthly Average	Daily Maximum
Total Suspended Solids	30 mg/L	100 mg/L
Oil & Grease	15 mg/L	20 mg/L

[3] Low volume waste sources means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume waste sources include, but are not limited to: wastewater from wet scrubber air pollution control system, ion exchange water treatment system, water treatment evaporator blowdown, floor drains, cooling tower basin cleaning wastes, and re-circulating house service water systems. Sanitary and air conditioning wastes are not included.

There must be no addition of polychlorinated biphenyl compounds to process wastewater.

2. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-041-0202 through -0215 except in the following defined mixing zone:

9 m (29.5 ft) vertically upward from the diffuser center point, which represents the worst case zone that exceeds the Criterion Continuous Concentration (CCC);

28 m (92 ft) downstream from the diffuser center point, which represents the worst case for the zone exceeding the CCC for temperature;

6 m (19.7 ft) upstream from the diffuser center point, which represents the worst case for the upstream zone exceeding the CCC;

18 m (59 ft) laterally from the diffuser center point;

1.2 m (3.9 ft) vertically downward from the diffuser centerline.

The dimensions of the zone of initial dilution (ZID) are:

2.9 m (9.5 ft) upstream and downstream from the diffuser centerline;

12 m (39.4 ft) laterally from the diffuser centerline;
2 m (6.6 ft) upward from the diffuser centerline;

1 m (3.3 ft) downward from the diffuser centerline.

3. The effluent limitations and other conditions in this permit related to temperature shall constitute the surface water temperature management plan (temperature management plan) required by OAR 340-41-0026(3)(a)(D) and 340-041-120 (11)(e)(C)applicable to the permittee. Provided that the permittee complies with this temperature management plan, the permittee shall be deemed to be in compliance with the state temperature water quality standard and not be deemed to be causing or contributing to a violation of the water quality standards for temperature.

SCHEDULE B
Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

1. Outfall Number 001

Item or Parameter	Minimum Frequency	Type of Sample
Chlorine	Continuous	Monitor
Temperature*	Continuous	Monitor
pH	Continuous	Monitor
Heat Load	Continuous	Calculated
Flow rate**	Continuous	Meter

*Half-hourly readings will be used for calculating average temperatures and heat loads as described above.

**Flow will be totalized daily. The daily flowrate will be the totatlized flow divided by the total flow time within a 24-hour period from midnight to the following midnight.

2. Discharges to Permittee's System

The Permittee will require discharges subject to Condition A.1.b to monitor and report to the Permittee the following parameters for the wastewater streams described in Condition A.1.b, as applicable:

Item or Parameter	Minimum Frequency	Type of Sample
Chlorine	Continuous	Monitor
Total Chromium*	Annually	Grab
Total Zinc	Annually	Grab
Total Suspended Solids	Monthly	Grab
Oil and Grease	Monthly	Grab

The Permittee shall include the monitoring results submitted by dischargers in its monitoring reports to the Department.

SCHEDULE D
Special Conditions

1. Mitigation Conditions

a. Duty to Mitigate

During the first three years of this Permit, the Permittee shall evaluate the performance of influent/effluent heat exchangers to reduce the discharge of excess heat load. If the use of the heat exchangers is shown to be successful in reducing or eliminating excess heat load discharged to the Columbia River, the permittee can propose permit modifications with new wasteload allocations. If by December 31, 2005, the permittee demonstrates that no excess heat load will be discharged under this permit and requests in writing that the Department modify this permit to include effluent limitations that do not allow the discharge of excess heat, then the requirements of these mitigation conditions shall no longer apply. Otherwise, the Permittee shall implement a heat load mitigation project in accordance with the schedule and requirements set forth in these mitigation conditions.

b. Schedule

The permittee shall:

A. By December 31, 2005, identify a specific riparian vegetation restoration project within the watershed (Columbia River watershed within Oregon) and submit to DEQ for review a draft Mitigation Plan (as defined in Condition D.1.c), Mitigation Agreement (as defined in Condition D.1.d) and request for modification of the heat load effluent limits in this permit , consistent with the mitigation standard set forth in Condition D.1.e.

B. Develop a final Mitigation Plan and Mitigation Agreement and submit them to DEQ for approval within 30 days of receiving Department comments on the plan. Upon approval by DEQ these documents shall become part of an updated Temperature Management Plan (TMP).

C. Enter into the approved Mitigation Agreement and fully fund the mitigation project within 180 days of DEQ approval of the Mitigation Plan and Mitigation Agreement. Once the permittee has entered into the approved Mitigation Agreement and fully funded its obligations under the Mitigation Agreement, its mitigation obligations shall be fully satisfied under this permit. The Mitigation Agreement also shall satisfy any mitigation requirements in subsequent renewals of this permit for as long as the mitigation project is maintained. In the event of any changes to the discharge that increase excess heat load above the levels mitigated under these special conditions, additional mitigation may be required by the Department only with respect to the increased heat load.

c. Mitigation Plan

The Mitigation Plan shall include the following components:

A. Description of the location of the riparian restoration project by water body, river mile and legal description.

B. A planting plan, including vicinity map, plan view drawing, cross section drawing, and plant list. Specifications for construction/installation of the riparian vegetation

C. The schedule for initial planting and riparian restoration tasks.

D. Calculations demonstrating that the mitigation standards identified below in Condition D.1.e. will be met by the mitigation project.

E. A maintenance plan describing how the plants will be maintained and providing for replacement of plants if survival rate is not as great as the survival rate assumed in the calculations described in Condition D.1.c.D above.

F. Monitoring to confirm implementation of the Mitigation Plan in accordance with its terms. The plan will specify the parameters to be monitored, which shall include a biologist's assessment of plant growth rate and survival. The initial monitoring shall be conducted in the first year following completion of the initial planting and shall be repeated in years 2, 3, 5, 8, and 10 and every 10th year thereafter through the life of the mitigation project. A monitoring report will be submitted to the Department by December 31 in each year monitoring is required. The monitoring report will describe the results of the monitoring and any planting, maintenance or plant replacement conducted since the last monitoring report.

G. Description of the mechanism by which the mitigation site will be protected from uses not consistent with the intent of the mitigation, until the mitigation requirements are met.

H. A description of the real property rights that have been or will be acquired to provide access to the mitigation site, including easements, equitable servitudes, fee title or other rights.

d. Mitigation Agreement.

The permittee shall enter into a Mitigation Agreement with a reputable land or water conservation organization or governmental entity (the "Conservation Entity") to implement the Mitigation Plan. The Mitigation Agreement shall include at least the following terms:

A. A commitment by the Conservation Entity to fully implement the Mitigation Plan in accordance with its terms, including the initial planting and long-term maintenance, monitoring and reporting.

B. A provision that the Mitigation Agreement is enforceable by the Permittee and the Department and any successor agency. A breach of the Mitigation Agreement by the Conservation Entity shall not be deemed a violation of this permit by the permittee.

C. Terms describing the total amount of funding necessary for the mitigation project and the schedule and payment terms for how the permittee will provide that funding.

D. A commitment by the Conservation Entity to hold in trust the project funding and the necessary real property rights for the mitigation site for the benefit of the Department, the public and the permittee for at least the term of the mitigation project.

E. A requirement that the Conservation Entity will cause to be recorded in the county real property records a memorandum describing the Mitigation Agreement.

e. Mitigation Standards

The intent of the mitigation project is to offset the estimated aggregate excess heat load that the permittee will discharge during the water quality limited period of the Columbia River at the discharge (July, August, and September) over 40 years, which is the estimated life of the projects that initially will be discharging wastewater to the permittee for discharge under this permit.

A. The Estimated Aggregate Excess Heat Load under this permit shall be calculated as the 40-year sum of the average excess heat load over the 20°C standard projected for the temperature water quality limited season. The estimate shall be based on the temperature and heat load discharged over the first three years of this permit, adjusted to reflect projections for future operations of the sources generating (or projected to generate) the effluent discharged under this permit and long-term meteorological data. The Estimated Aggregate Excess Heat Load shall include any excess heat load actually discharged prior to date this projection is made.

B. The Projected Heat Load Reduction to the water body at the mitigation site shall be calculated as the amount of solar radiation (expressed in Joules) blocked by shade trees from the surface area of the project stream over a 40-year period. The mitigation value of the mitigation project shall be the sum

of the Projected Heat Load Reduction over the 40-year life of the mitigation project, taking into consideration the time necessary for plants to mature to the point of providing the projected levels of shading.

C. The Projected Heat Load Reduction over the life of the mitigation project shall be at least as great as the 40-year Estimated Aggregate Excess Heat Load of the discharge described in paragraph D.1.e.A above.

D. Upon approval of the Mitigation Plan, the Department will modify this permit to revise the temperature and excess heat load limits set forth in Condition A.1.a consistent with the Estimated Aggregate Excess Heat Load, which modification may include the addition of a limit on aggregate excess heat load for each temperature water quality limited season.

Additional Conditions

2. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good in plant control and quick and proper action in the event of a spill or accident

3. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of the collection and treatment system. This person must have access to all information pertaining to entire system, including all data generated.

4. Reopening of Permit. This permit may be reopened and modified or reissued to incorporate one or more waste load allocations (WLAs) resulting from a Total Maximum Daily Load (TMDL) for any of the parameters associated with the permittee's discharge. Nothing in this condition shall limit reopening of this permit for reasons specified in Schedule F, General Conditions. Nothing in this condition shall abridge the public process associated with permit modification or reissuance.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

In addition, a person who unlawfully pollutes water as specified in ORS 468.943 or ORS 468.946 is subject to criminal prosecution.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall 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.

4. 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 shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, 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; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants 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.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which 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 which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, 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 shall not be 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.

3. Bypass of Treatment Facilities

a. Definitions

(1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which 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 unless:

(a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;

(b) 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

judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The permittee submitted notices and requests as required under General Condition B.3.c.

(2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. 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 B.4.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 shall 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 D.5, hereof (24-hour notice); and

(4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include 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 event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.

(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and

(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. 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.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall 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 shall 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.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The 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 shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by 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.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall 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.

6. 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 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of 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, 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 the Director at any time.

9. Records Contents

Records of monitoring information shall 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.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative 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.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. 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 the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. 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 shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall 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;

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

a. Any unanticipated bypass which exceeds any effluent limitation in this permit.

b. Any upset which exceeds any effluent limitation in this permit.

c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall 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.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Information

A person who supplies the Department with false information, or omits material or required information, as specified in ORS 468.953 is subject to criminal prosecution.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**

The permittee must provide adequate notice to the Department 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 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 shall 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.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**

The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.

2. TSS means total suspended solids.

3. mg/l means milligrams per liter.

4. kg means kilograms.

5. m^3/d means cubic meters per day.

6. MGD means million gallons per day.

7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.

8. FC means fecal coliform bacteria.

9. 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 340-41.

10. CBOD means five day carbonaceous biochemical oxygen demand.

11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.

12. Quarter means January through March, April through June, July through September, or October through December.

13. Month means calendar month.

14. Week means a calendar week of Sunday through Saturday.

15. Total residual chlorine means combined chlorine forms plus free residual chlorine.

16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.

17. POTW means a publicly owned treatment works.

(May 1998)

Attachment E
EQC, January 30-31, 2003
Agenda Item G

DRAFT

NPDES WASTE DISCHARGE PERMIT EVALUATION

13 January 2003

Department of Environmental Quality - Northwest Region
2020 SW 4th Avenue, Portland OR 97201-4987
Telephone: (503) 229-5263

PERMITTEE: Port of St. Helens
File No. 111746

SOURCE CONTACT:

Name	Phone Number
Paul Langner	503/397-2888

REVIEWER: Elliot Zais, Northwest Region

TO: Robert P. Baumgartner, Manager
Water Quality Source Control Section, Northwest Region

PROPOSED ACTION:. Issue National Pollutant Discharge Elimination System Permit

SOURCE CATEGORY: Major Industrial Source

PERMIT APPLICATION DATE: 26 February 2002

PERMIT APPLICATION NUMBER: 986433

EPA REFERENCE NUMBER: OR 004085-1

INTRODUCTION

The Port of St. Helens (Port) in St. Helens, Oregon is a special district created in 1947 under the authority of Oregon Revised Statutes (ORS) 777 and is governed by rules applying to Special Districts, ORS 255. The Port is proposing to construct a wastewater collection system, pump station, and outfall structure in the Port Westward area of Columbia County. The facility will collect pretreated industrial wastewater from proposed industrial facilities in the Port Westward Industrial Park and discharge the water to the Columbia River at river kilometer 85.3 (river mile 53). Proposed industrial facilities include the Portland General Electric (PGE) Port Westward

Generating Plant, the Summit Westward Generating Plant, the Cascade Grain Products ethanol plant, and additional future facilities.

FACILITY DESCRIPTION AND UPDATE

The proposed industrial wastewater system will include the following components: a wastewater collector sewer that will convey wastewater from the various industrial users to the river, a pump station, and an outfall structure. The proposed system will also include an influent/effluent heat exchanger; alternatively, the Port may require individual discharges to use such heat exchangers or other technology that will achieve similar heat reductions.

The wastewater collector pipeline will be about 1585 meters (5200 feet) long and will be constructed of 18- and 21-inch polyvinyl chloride (PVC) pipe. The system will be capable of conveying the maximum projected 0.2 cubic meter per second (7 cubic feet per second) or 11 900 liters per minute (3142 gallons per minute, gpm) of wastewater from the proposed facilities. To the greatest extent practicable, the collector line will be located in uplands or within existing roadways to minimize disturbance to wetlands. The outfall supply pipe will be placed in a 3.66 meter wide by 1.52 meter deep (12-foot wide by 5-foot deep) trench. The pump station will be located in a wet well on approximately 0.04 hectares (0.1 acres) of land.

No domestic sewage will be discharged to the Port system. Individual industries will be responsible for treatment and disposal of their sanitary wastes. In addition, all industries will be required to meet new source performance standards related to their industry. For example, dechlorination of cooling water and boiler blowdown will occur prior to discharge to the Port system in order to meet the new source performance standard of a daily average concentration of no more than 0.2 mg/L of residual oxidants. These are further discussed below in the Pollutants Discharged and Proposed Limits section.

UNIQUE OPERATING CONDITIONS AND PROBLEMS

None.

SLUDGE MANAGEMENT

Not an issue under the proposed application.

STORM WATER

Not an issue under the proposed application.

GROUNDWATER

Groundwater is not an issue.

OUTFALL

The outfall structure will be located in the Columbia River at approximately RK 85.3 (RM 53). The structure will be composed of a pipe, diffuser, and concrete support saddles. The entire length of the structure from the pump station to the end of the diffuser will be approximately 850 meters (2800 feet). Roughly 730 meters (2400 feet) of this will be located on land, with the remaining 120 meters (400 feet) located in the water. The diffuser will be at a depth of about 18 meters (60 feet). The pressure main will be constructed of PVC (C905) and the outfall pipe will be made of 14-inch diameter HDPE (PE3408) pipe. The proposed diffuser will be approximately 22 meters (72 feet) long and will be an alternating staged diffuser capable of passing a maximum flow of 0.2 cubic meter per second (7 cubic feet per second) or 11 900 liters per minute (3142 gallons per minute, gpm).

POLLUTANTS DISCHARGED AND PROPOSED LIMITS

Discharges from steam electric power generating stations are governed by Title 40, Code of Federal Regulations, Subchapter N, part 423. Ethanol plant discharges are governed by Part 414, Subpart F – Commodity Organic Chemicals. However, Cascade Grain is discharging only non-contact cooling water, so Part 414 will not apply. Part 423.15 New Source Performance Standards specifies pH limitations and disallows discharge of PCBs. Further, for cooling tower blowdown water it specifies limitations for free available chlorine, total chromium, total zinc, and 126 priority pollutants contained in chemicals added for cooling tower maintenance. For the priority pollutants, no detectable amount is allowed to be discharged. At the Department's discretion, monitoring for the 126 priority pollutants can be waived and compliance can be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136. The Department has reviewed extensive monitoring data for the priority pollutants along with material submitted by the applicant. Low levels of many of these pollutants are detectable in the Columbia River and in local groundwater. None of these pollutants are added by any of the facilities. Therefore, the Department waives the monitoring requirement for the 126 priority pollutants. The effluent limitations in Part 423 are technology-based limits and are applied downstream of the processes they regulate. This can require internal monitoring/compliance points in addition to the overall outfall for the complex.

The primary pollutants of concern are temperature and chlorine. The Columbia River is water quality limited for toxics, including arsenic, DDE and DDT, PCB, PAH, and dieldrin. These toxics were assessed for potential impact to the river. All of these except temperature are on the 126 priority pollutants list. None of the pollutants except temperature and chlorine are used or produced at any of the facilities.

In order to issue a permit, the Department must perform a review per the requirements of OAR 340-041-0026. The Department must determine that the discharge will not cause or contribute to any water quality violations before allowing a new mass load discharge. Below is a summary of the applicable rules, required findings, and considerations, followed by the Department's conclusions:

OAR 340-041-0026(3)(D) lays out the EQC's temperature policy. "Anthropogenic sources (of heat) are required to develop and implement a surface water temperature management plan which describes the best management practices, measures, and/or control technologies which will be used to reverse the warming trend of the basin, watershed, or stream segment identified as water quality limited for temperature;" The proposed permit has a temperature management plan (TMP) referenced in Schedule D. When the temperature TMDL is issued for the Columbia River, the permit will be re-opened and the TMP will be updated. Schedule D describes a mitigation plan which will be implemented if necessary. The permit conditions support reversal of the warming trend in the river.

OAR 340-041-0026(1)(a) The Antidegradation Review is attached.

OAR 340-041-0026(2) Growth and development must be accompanied by increased efficiency and effectiveness of waste treatment. The applicant has provided analyses of potential treatment systems and practices. The Department has reviewed them. This section is satisfied.

340-041-0026(3)(a)(A) The new discharged load would not cause water quality standards to be violated.

Conclusion: The Department has modeled the mass loading for the parameters listed and determined that water quality standards would not be violated outside of a mixing zone. All water quality standards will be met and beneficial uses protected. A reasonable potential analysis has been done and an anti-degradation analysis has been done.

As with all NPDES permits issued for facilities that propose to discharge wastewater to waters of the state, the proposed draft permit for the Port facility was drafted to ensure that all water quality standards contained in OAR 340-041-0205 would be achieved.

Each of the parameters listed in OAR 340-041-0205(2) is discussed below followed by the conclusions reached during this review.

(a) Dissolved Oxygen (DO): The EQC adopted changes on January 11, 1996 which became effective on July 1, 1996. The following standard for the Columbia River is applicable to this facility:

(D) For waterbodies identified by the Department as providing cold-water aquatic life, the dissolved oxygen shall not be less than 8.0 mg/L as an absolute minimum. Where conditions of

barometric pressure, altitude, and temperature preclude attainment of the 8.0 mg/L, dissolved oxygen shall not be less than 90 percent of saturation. At the discretion of the Department, when the Department determines that adequate information exists, the dissolved oxygen shall not fall below 8.0 mg/L as a 30-day mean minimum, 6.5 mg/L as a seven-day minimum mean, and shall not fall below 6.0 mg/L as an absolute minimum (Table 21).

Conclusion. The Port Westward facility's discharge will not have a substantive BOD load. A Streeter-Phelps analysis performed by the applicant shows a DO drop of 0.09 mg/L given a dilution ratio of 46. This drop is predicted to occur after 2.69 days. This drop is negligible. The actual dilution available is much greater than 46. The anticipated effluent flowrate is thousands of times less than the 7Q10 flowrate of the Columbia.

The Columbia River in the vicinity of Clatskanie, Oregon is not expected to violate the cold-water minimum dissolved oxygen (DO) water quality criterion of 8.0 mg/l protective of cold species fish migration. The critical period for consideration of this criterion is warm weather, low flow conditions occurring in the mid-July to mid-September period. A survey of known observed data shows that two stations have routinely collected DO measurements within the Columbia River near Clatskanie: Columbia River at Beaver Army Terminal (USGS Station 14246900, monthly since 1990) and Ambient site near Cathlamet Buoy #41 (ODEQ 23800, every two months since 9/2000). Based on observed data, some assimilative capacity for oxygen consuming wastes exists in the Columbia River within this segment. The USGS station reports no violations (DO < 8.0 mg/l) out of 258 observations, and the DEQ station reports no violations out of 9 observations. In addition, several DEQ CEMAP profiles of DO collected during late summer/early fall in the Columbia River near Clatskanie showed no violations of the minimum DO criterion.

Dissolved oxygen in backwater and embayed portions of the Columbia River near Clatskanie may periodically fall below the cold water minimum criterion during critical summertime conditions. These excursions are not believed to influence dissolved oxygen concentrations in the main channel of the Columbia River or BOD loads carried by the river where mixing velocities (and thus mechanical reaeration rates) are greater and sediment oxygen demand and wind sheltering is reduced. In addition, a discharge of a thermal load that does not appreciably affect far-field temperature in this waterbody is also not expected to appreciably influence far-field DO concentrations in this waterbody.

(b) Temperature: The EQC adopted changes on January 11, 1996 which became effective on July 1, 1996. The following is applicable to the Columbia River:

340-041-0205(2)(b)(A) To accomplish the goals identified in OAR 340-041-0120(11), unless specifically allowed under a Department-approved surface water temperature management plan as required under OAR 340-041-0026(3)(a)(D), no measurable surface water temperature increase resulting from anthropogenic activities is allowed:

(ii) In the Columbia River or its associated sloughs and channels from the mouth to river mile 309 when surface water temperatures exceed 68.0°F (20.0°C);

(iii) In waters and periods of the year determined by the Department to support native salmonid spawning, egg incubation, and fry emergence from the egg and from the gravels in a basin which exceeds 55.0 °F (12.8 °C);

(iv) In waters determined by the Department to support or to be necessary to maintain the viability of native Oregon bull trout, when surface water temperatures exceed 50.0 °F (10.0 °C);

(v) In waters determined by the Department to be ecologically significant cold-water refugia;

(vi) In stream segments containing federally listed Threatened and Endangered species if the increase would impair the biological integrity of the Threatened and Endangered population;

(vii) In Oregon waters when the dissolved oxygen (DO) levels are within 0.5 mg/l or 10 percent saturation of the water column or intergravel DO criterion for a given stream reach or subbasin;

(viii) In natural lakes.

Conclusion: The applicant presented mixing zone studies using the program CORMIX to show the fate and transport of temperature in the discharge. The Department reviewed additional studies done using CORMIX and the program PLUMES. These studies raised questions about port design based on recommendations in EPA's Technical Support Document (TSD). They also evaluated the potential impact to an organism drifting into the diffuser jet. This situation is analyzed per the TSD using the drift organism method. This method posits an organism which moves only with the current.

The Department and our consultants provided further analyses and recommendations on outfall design and placement. The applicant responded to the concerns with additional analyses and a modification of port design. The modifications and subsequent analysis presented by the applicant show that the revised proposed diffuser design as simulated by PLUMES meets the recommendations of the TSD, meets state mixing zone requirements, and is consistent.

The Department has set the mixing zone and zone of initial dilution dimensions based on a review of all the modeling which has been done. We believe that the mixing zone proposed below meets state regulations and federal guidelines.

The size of the mixing zone is:

30 meters horizontally in any flow direction from the diffuser.

The size of the zone of initial dilution (ZID) is:

3.5 meters horizontal flow direction from the diffuser.

The diffuser ports will be at the 55 – 65 foot depth range.

The Department's literature review indicates that the proposed placement, design, and size of the mixing zone will not likely impair salmonids, sturgeons, or other biota or other beneficial uses. The placement, design, and size have all been modified since the original application. These changes do not change any previous conclusions and the critical metrics used to assure use protection remain the same. Pulling the diffuser away from the thalweg may provide additional protection for sturgeon with no additional risk to salmonids. Structural integrity was improved with no influence on the rate of mixing achieved.

The permit temperature and heat load effluent limits were developed as follows. Both Cascade Grain and Summit Westward plan to use cooling towers to cool their discharge wastewater. The discharge water temperature from a cooling tower depends on ambient air dry bulb temperature along with relative humidity (or wet bulb temperature), and temperature of influent water to the tower. To calculcate discharge temperatures, the applicant and the Department independently analyzed weather data for Astoria, Portland, and Longview, Washington. The resulting analyses can be used in several ways. We have chosen to use the 7-day average temperature and the 30-day average temperature to calculate cooling tower effluent temperatures and approach temperatures. The approach temperature is the difference between the ambient wet bulb temperature and the effluent temperature. The smaller the approach temperature, the larger and more expensive the cooling tower. Practical design and economic considerations keep the approach temperature greater than 2.8 °C (5 °F). In addition, to the 7-day and 30-day averages, we added a limit for instantaneous peak discharge temperatures.

The facilities have analyzed the effect of using heat exchangers to cool effluent water by running the water through the exchangers along with influent water. The analyses are based on meteorological data from Longview, Washington from 1996 to 2002. The Department has reviewed the methodology used and agrees with it. The applicants have proposed the following temperature and heat load limits based on the analyses. In addition, the Department will include an instantaneous peak temperature of 32 °C averaged over two hours. See the table below from the proposed permit.

a. Outfall 001: Wastewater Discharge to Columbia River

Parameter	7-Day Moving Average	30-Day Moving Average	Peak (2 hour average)
Excess Heat Load[1] 1 June – 15 October	4.46 MW	3.58 MW	----
pH	Must not be outside the range of 6.5 – 8.5	Must not be outside the range of 6.5 – 8.5	Must not be outside the range of 6.5 – 8.5
Temperature[2] 1 June – 15 October	27 °C	26 °C	32 °C

The heat load limits are based on 5.13 cfs flowrate and 27.3 °C for 7-day average and 4.76 cfs flowrate and 26.3 °C for 30-day average.

Mitigation of the excess heat load is one of the strategies being investigated. The margin of safety in the above table may be reduced if mitigation proves to be effective. Mitigation is planned to involve planting of vegetation to increase riparian shade thus preventing some solar radiation from hitting the river. The requirements for evaluating and implementing mitigation are in Schedule D of the permit per the following paragraphs.

"During the first three years of this Permit, the Permittee shall evaluate the performance of influent/effluent heat exchangers to reduce the discharge of excess heat load. If the use of the heat exchangers is shown to be successful in reducing or eliminating excess heat load discharged to the Columbia River, the permittee can propose permit modifications with new wasteload allocations. If by December 31, 2005, the permittee demonstrates that no excess heat load will be discharged under this permit and requests in writing that the Department modify this permit to include effluent limitations that do not allow the discharge of excess heat, then the requirements of these mitigation conditions shall no longer apply. Otherwise, the Permittee shall implement a heat load mitigation project in accordance with the schedule and requirements set forth in these mitigation conditions."

"The intent of the mitigation project is to offset the estimated aggregate excess heat load that the permittee will discharge during the water quality limited period of the Columbia River at the discharge (July, August, and September) over 40 years, which is the estimated life of the projects that initially will be discharging wastewater to the permittee for discharge under this permit."

The applicants have proposed the following temperature related wastewater characteristics.

	Flow 7-day and 30-day avg., cfs	Max. 7-day avg. temp., °C	Max 30-day avg. temp., °C	Excess Heat Load, MW, 7-day/30-day

Cascade Grain	1.1 1.0	27	26	0.9 0.7
PGE	1.8 1.7	28	27	1.7 1.4
Summit Westward	1.5 1.4	27	26	1.3 1.0
Future	0.7 0.6	27	26	0.6 0.5
Total/Average	5.1 4.7	27.3	26.3	4.5 3.6

Heat loads above the 20 °C standard are calculated as follows.

Heat transfer per unit time equals density of water times flow rate times specific heat times temperature difference. Heat transfer is in units of megawatts (MW) or megajoules/second (MJ/s).

$H = (1000\ kg/m^3)(Q\ m^3/s)(4182\ J/(kg\ ^oC))(\Delta T)(1\ W/(1\ J/s))(1\ MJ/10^6 J)$

For example, the projected excess heat load at full buildout using 7-day average temperatures and average flowrate will be

$H = (1000\ kg/m^3)(0.148097\ m^3/s)(4182\ J/(kg\ ^oC))(9.67\ ^oC)(1\ W/(1\ J/s))(1\ MJ/10^6 J) = 5.99\ MW$

(c) Turbidity (Nephelometric Turbidity Units, NTU): No more than a ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity

Conclusion: The proposed discharge from the Port Westward facility is not expected to affect instream turbidity.

(d) pH (hydrogen ion concentration): pH values shall not fall outside the following ranges: (B) Estuarine and fresh waters: 6.5-8.5.

Conclusion. The wastewater discharge is not expected to have a pH outside the range 6.5 -8.5 at the end of pipe.

(e) and (f) Bacteria Standards. The Port Westward facility's discharge is not expected to contain bacteria. The discharge is warm water which has been chlorinated. Domestic sanitary waste is discharged through a different system than process wastewater.

(g) Dissolved gases. The Port Westward facility's discharge is not expected to cause increases of dissolved gases in sufficient quantities to cause objectionable odors or to be deleterious to fish or other aquatic life, navigation, recreation, or other reasonable uses made of the receiving water.

(h) Fungi. The Port Westward facility's discharge is not expected to contain fungi or to promote their growth.

(i) Tastes or odors. The Port Westward facility's discharge is not expected to create tastes or odors or toxic or other conditions deleterious to aquatic life or to affect potability of drinking water or palatability of fish or shellfish.

(j) Deposits. The Port Westward facility's discharge is not expected to contain material which would cause appreciable deposition in the river.

(k) and (l) The Port Westward facility's discharge is not expected to cause offensive aesthetic conditions.

(m) Radioisotopes. The Port Westward facility's discharge is not expected to contain radioisotopes.

(n) Total Dissolved Gas. The Port Westward facility's discharge is not expected to increase total dissolved gas above 110 percent of saturation.

(o) Total Dissolved Solids. The TDS guidance limit in the Columbia River is 500 mg/L per OAR 340-041-0205(2)(o)(A). It is appropriate to assume complete mixing when evaluating this parameter. The application estimates monthly average TDS in the 785 mg/L range. High dilutions will reduce this to a few mg/L within a few meters of the diffuser.

(p) Toxic Substances. The discharge is not expected to cause or contribute to water quality standards violations. The Department has performed a reasonable potential analysis for metals and chlorine and determined that water quality standards would not be violated outside of a mixing zone. The analysis is attached. The facilities are not adding any mercury or silver to the process discharge. The reported 0.5 µg/L of mercury was included by the industries to account for the potential of concentrating source water mercury.

A mixing zone as described above has been included in Schedule A of the proposed permit. All water quality standards will be met and beneficial uses protected.

See below for discussion of toxics on the 303(d) list.

340-041-0026(3)(a)(B) The new discharged load would not unacceptably threaten or impair any recognized beneficial uses. In making this determination, the Commission or Department may rely upon the presumption that if the numeric criteria established to protect specific uses are met the beneficial uses they were designed to protect are protected. In making this determination the Commission or Department may also evaluate other state and federal agency data that would provide information on potential impacts to beneficial uses for which the numeric criteria have not been set.

Conclusion: The Department believes that the new load will not unacceptably threaten or impair any recognized beneficial uses.

The following table compares the water-quality based effluent limits developed for this permit with technology-based limits given in 40 CFR 423.

Parameter	Technology Based	Water-Quality Based
Power Plants		
pH	6-9	6.5 – 8.5 until EPA approves changes
PCBs	None	
TSS	100 mg/L max., 30 mg/L avg.	None.
O&G	20 mg/L max., 15 mg/L avg.	None.
Free Available Chlorine in blowdown	0.5 mg/L max., 0.2 mg/L avg.	*0.38 mg/L fresh acute 0.15 mg/L fresh chronic
126 priority pollutants in blowdown	No detectable amount	
Total Chromium in blowdown	0.2 mg/L max., 0.5 mg/L avg.	
Outfall		7day 30-day
Temperature		27 °C 26°C
Heat Load		4.46 MW 3.58 MW

* Total residual chlorine

340-041-0026(3)(a)(C) The Department has performed an anti-degradation review. The new discharged load shall not be granted if the receiving stream is classified as being water quality limited under OAR 340-041-0006(30)(a), unless:

(i) The pollutant parameters associated with the proposed discharge are unrelated either directly or indirectly to the parameter(s) causing the receiving stream to violate water quality standards and being designated water quality limited.

The Columbia River is listed as water quality limited on Oregon's 303(d) list for the following parameters:

Tenasillahe Island to Willamette River	Bacteria Water Contact Recreation (fecal coliform-96 Std)	Fall-Winter- Spring
	Dissolved Oxygen Cold-water aquatic life	Summer
	pH	Spring
	Temperature	Summer
	Total Dissolved Gas	Year Around
	Toxics	Tissue - Pesticides (DDE, DDT)
	Toxics	Arsenic (Water) year around
	Toxics	Tissue – PCB

2002 List Toxics PAH (Water) year around
2002 List Toxics Dieldrin (Water) year around

Temperature is discussed extensively in the attached Antidegradation Review. The dissolved oxygen and bacteria standards are being examined and their status is uncertain. pH is being proposed for delisting. This discharge is not expected to increase the concentration in the river of any of the listed toxics. Toxics are discussed in detail below. The Department has performed a reasonable potential analysis for the parameters listed and determined that water quality standards would not be violated outside of a mixing zone. A mixing zone has been included in Schedule A of the proposed permit. All water quality standards will be met and beneficial uses protected.

340-041-0026(3)(a)(D) – (H) Temperature is discussed above.

340-041-0026(3)(a)(I) – (J) Bacteria is discussed above.

Total dissolved gas is not an issue because the discharge will be well below the surface of the river.

The Department evaluated the practical impact of toxics which will be concentrated by evaporation. For background concentrations in the Columbia we used data from the USGS water quality station, "14246900", at the Beaver Army Terminal near Quincy in the immediate vicinity of the Port Westward project. The Beaver Generating Station operates at this location. We expect that the discharges from this station are similar to what will be produced at the proposed facility. However, water from the Ranney well which might be used for groundwater may have lower concentrations than water from the river. The toxics and heavy metals data from the station are summarized in the table below.

	Averages
As (dissolved)	0.8 µg/L Uncensored data
Ba (dissolved)	18.36 µg/L
Cd (dissolved)	< 1 µg/L
Cr (dissolved)	< 5 µg/L
Cu (dissolved)	c. 2 µg/L
Fe (dissolved)	25.54 µg/L
Pb (dissolved)	< 1 µg/L
Ni (dissolved)	< 1 µg/L
Zn (dissolved)	2.19 µg/L
Hardness = 4.039x50.045/12.2 + 14.43x50.045/20=52.68 mg/L	
Dieldrin (dissolved)	<0.001 µg/L
Dieldrin (total)	<0.0015 µg/L average of 2 samples
DDE (total)	<0.0015 µg/L average of 2 samples
DDT (unfiltered, recoverable)	<0.0015 µg/L average of 2 samples
PCB (total)	<0.0015 µg/L average of 2 samples

Arsenic, PAH, and dieldrin are on the 303(d) list because they are found in the water column and are deleterious to human health and to aquatic health. PCB and the pesticides are on the 303(d) list because they have been found in fish tissue and have deleterious effects on the fish. Each parameter is discussed separately below.

On May 1, 1996 the Lower Columbia River Bi-State Program issued a report prepared by Tetra Tech entitled *Assessing Human Health Risks From Chemically Contaminated Fish in the Lower Columbia River*. Based largely on this report the Oregon Department of Human Services, Oregon public Health Services issued a Columbia River Fish Advisory on May 13, 1996 stating "The Oregon and Washington State Health Departments have determined that most people can safely eat the fish; however, some people, such as pregnant and nursing women and small children are more sensitive and should limit consumption of certain species." The material balance calculation below shows that the proposed discharges from the Port Westward facilities could not add meaningful amounts of the pollutants of concern. Outside the mixing zone, there would be no measurable increase.

The TSD states "the harmonic mean is the appropriate design flow for determining long-term exposures using steady-state modeling of effluents." This means that human health effects are calclated using complete mixing of the effluent with the harmonic mean flow of the river. The Department's modeling shows that there will not be a load increase of toxics which means that the discharge will not be subject to anti-degradation. Furthermore, the potential concentrations of toxics will be below meaningful change to water quality.

The US Geological Survey issued Water-Resources Investigations Report 99-4051 entitled *Investigation of the Distribution of Organochlorine and Polycyclic Aromatic Hydrocarbon Compounds in the Lower Columbia River Using Semipermeable Membrane Devices* in 1999. The study found the concentrations of PCBs to be in tens of picograms during low flow conditions and closer to hundreds of picograms during high flow conditions. A picogram is one-trillionth of a gram (10^{-12} gram).

We can perform a material balance calculation to determine the effects of these toxics in the effluent stream on concentrations in the river. The material balance equation is

1) $C_{mix}Q_{mix} = C_{river}Q_{river} + C_{effluent}Q_{effluent}$ where

C = concentration in micrograms per liter,
Q = flowrate in liters per second, L/s

The effluent flowrate is comprised of process flowrate plus groundwater flowrate minus evaporation.

2) $Q_{effluent} = Q_{process} + Q_{groundwater} - Q_{evaporative}$

The rate of pollutant flow in the effluent in milligrams per second, symbolized by $M_{effluent}$ is calculated as follows:

3) $M_{effluent} = C_{process}Q_{process} + C_{groundwater}Q_{groundwater}$

The concentration of pollutant in the effluent is given by

4) $C_{effluent} = M_{effluent}/(Q_{process} + Q_{groundwater} - Q_{evaporative})$

This leads to an instream concentration of

5) $C_{mix} = (C_{river}Q_{river} + C_{process}Q_{process} + C_{groundwater}Q_{groundwater})/(Q_{river} + Q_{process} + Q_{groundwater} - Q_{evaporative})$

Substitute Equation 3 into Equation 5 to get

6) $C_{mix} = (C_{river}Q_{river} + M_{effluent})/(Q_{river} + Q_{process} + Q_{groundwater} - Q_{evaporative})$

We can use a harmonic mean flowrate of 5.92×10^6 L/s for Q_{river}

$Q_{groundwater} = 4.5$ cfs = 127 L/s

$Q_{process} = 7$ cfs = 198 L/s

$C_{process}$ = background concentration in the river water or groundwater for arsenic, PCB, DDT, DDE, PAH, and dieldrin because the process doesn't add any of these chemicals.

If we use 1 µg/L for $C_{effluent}$ and C_{river}, we get $M_{effluent}$ = 1 µg/L 127 L/s = 127 µg/s. Then we assume the worst case from p. 14 of the NPDES application, i. e., we concentrate the pollutant seven fold. This means we evaporate about 86% of the input water. $Q_{process}$ = 198 L/s, so

$Q_{evaporative} = 6 \times 198$ L/s = 1188 L/s.

Therefore, C_{mix} = (1 µg/L 5.92×10^6 L/s + 127 µg/s)/(5.92×10^6 L/s + 198 L/s + 127 L/s -1188 L/s) = 1.000167 µg/L.

We conclude that the effect of any of these pollutants in the process water is negligible in comparison to the concentrations already in the river or relative to water quality standards or risk to beneficial uses..

Arsenic

USGS data from 4 sites (Warrendale, Hayden Island, Columbia and Beaver: 14 of 16 samples exceeded Water Quality Standard for arsenic, Table 20. Detection level near 1 µg/L.

Arsenic is a Class A toxic according to EPA. The lethal dose of arsenic trioxide for an adult is about 0.1 g. EPA recently lowered the drinking water MCL for arsenic to 0.01 mg/L.

Arsenic is a naturally occurring element ubiquitous in the environment. Standard Methods for the Examination of Water and Wastewater, 20th Edition states "The average abundance of As in the earth's crust is 1.8 ppm; in soils it is 5.5 to 13 ppm; in streams it is less than 2 µg/L, and in groundwater it is generally less than 100 µg/L." This document and several others suggest that arsenic is at background levels in the Columbia River and in the soil at the facility. There is no reasonable potential that the facility is adding arsenic to the river above background levels.

USGS data may reflect noise and uncertainty around the detection level rather than observed concentrations. The Lower Columbia River Bi-State study sampled for arsenic in the water column at 46 sites in 1991 and found no detectable levels. USGS data at the Beaver generating station found 22 out of 69 samples reported above the detection level. The detection level exceeds water quality criteria for fish ingestion and for fish and water ingestion.

In fish tissue it is the inorganic form of arsenic that causes concern. The Lower Columbia River Bi-State Program 1996 report *Assessing Human Health Risks From Chemically Contaminated Fish in the Lower Columbia River* found 10% of arsenic in the inorganic form in fish tissue. The study also found arsenic in carp whole body composites ranging from 0.08 to 3.02 mg/kg at 8 sites. In crayfish whole body composites, the concentrations ranged from 0.024 to 6.29 mg/kg at 22 sites. In peamouth, the concentrations ranged from 1.76 to 6.26 mg/kg and in white sturgeon from 0.89 to 14.74 mg/kg.

Oregon Public Health Services issued a Columbia River Fish Advisory based on the Bi-State study. This study used used data from fish collected in three different surveys, beginning in 1991. The risk assessment examined more than 100 chemicals initially detected in the fish.

The highest levels of contaminants were found in peamouth, carp and largescale sucker. Contaminants in these fish may affect human development.

The study found that PCBs, dioxins/furans, DDT, arsenic and mercury as potentially harmful to people eating fish. The highest concentrations of contaminants were found in carp, peamouth and largescale sucker; moderate concentrations were found in white sturgeon; and the lowest concentrations were found in steelhead trout, chinook salmon and coho salmon.

Since the Washington Department of Ecology and Oregon Department of Environmental Quality released the draft Bi-State risk assessment in August 1995, the study results underwent a

technical peer review by scientists external to the agencies. The peer reviewers' comments concurred with the study's methodology.

As a result of the draft risk assessment, the Washington and Oregon Health agencies conducted a health analysis. The health analysis showed that levels of mercury and arsenic do not appear to be of concern. PCBs, dioxins/furans and DDT are of concern for people who frequently eat peamouth, carp and largescale sucker and for the sensitive populations identified above. "Pregnant and nursing women, women who may become pregnant and young children should limit consumption of these species,"

Chemicals of concern accumulate in fatty tissues of all fish. People can reduce their exposure to these contaminants by cutting away fatty portions, including the skin, and then cooking the fish in a broiler or on a barbecue grill so fat drips away. People should also avoid eating the whole body of the fish.

EPA, Region 10 in conjunction with the Columbia River Intertribal Fish Commission (CRITFC), recently published the report entitled *Columbia River Basin Fish Contaminant Survey, 1996-1998.* Table 6-26 from the report summarizes estimated total cancer risks for adults assuming 1% and 10% inorganic arsenic and 70 years of exposure. The risks ranged from a high of 3.8×10^{-3} (about 4 chances in 1000 of getting cancer) for a CRITFC member tribe eating large amounts of Pacific lamprey at 10% arsenic to a low of 1.1×10^{-5} (about 1 chance in 100,000) for a member of the general public eating average amounts of coho salmon at 1% arsenic.

The Department wrote a TMDL for the Tualatin Basin. Using USGS data we concluded that arsenic in the water was natural background and therefore did not write a TMDL for it.

We constructed the following table to compare effects with criteria. The concentration of arsenic is 0.8 µg/L which was derived by analyzing available date with Uncensor, a program which accounts for samples reported as non-detect at given detection levels. We have groundwater data from a Ranney collection well in Columbia City. The concentrations of arsenic were non-detect at a method detection level of 1 µg/L.

ARSENIC

Concentration after mixing	0.800138	
Percent Increase	0.01726	
Increase in nanograms	0.138	ng
Criteria, ng		% of criteria
Fish consumption	17.5	0.0.79
Fish/water ingestion	2.2	6.3
Drinking MCL (DEQ)	50000	2.7E-4
Drinking Water MCL (EPA)	10000	1.38E-3
Chronic	238000	5.8E-05

Increased Risk?	No	

Dieldrin

USGS lipid bag data taken along the length of the Columbia River show dieldrin concentrations at 9 sites during low-flow conditions in 1997 (USGS, 1999). The nine sites and their river mile are : Bradwood (39), Beaver Army Terminal (54), Longview (69), Columbia City (82), Hayden Island (102), Warrendale (141), Umatilla (289), Vernita Bridge (388), and Northport (735). Concentrations range from 4 to 15 nanograms per SPMD (semi-permeable membrane device or lipid bag). Concentrations in tributaries go as high as 110 ng/SPMD. The estimated dissolved concentrations of dieldrin range from not calculable to 100 picograms per liter. Concentrations in tributaries go as high as 700 pg/L. The estimated total concentrations of dieldrin range from not calculable to 200 picograms per liter. Concentrations in tributaries go as high as 800 pg/L. Some concentrations are not calculable because all information required for calculation was not available.

Dieldrin is a very persistent insecticide. Dieldrin released to soils will persist for extremely long periods of time (> 7 yr). (*Handbook of Environmental Fate and Exposure Data for Organic Chemicals, Volume III, Pesticides, Phillip H. Howard, 1991)* Its low water solubility and strong adsorption to soil makes leaching into ground water unlikely. Water from the Ranney well may have different and probably lower concentrations of dieldrin and other toxics than the river.

Dieldrin released to water systems will not undergo hydrolysis or appreciable biodegradation…Evaporation from water may be an important process, but conflicting data are available. Half-life is estimated to vary from hours to months.

Dieldrin, if released into the environment, could contaminate water and the food chain.

The following table is for dieldrin, assuming 0.0015 µg/L = 1.5 ng/L concentrations. The data available show non-detect or detected at the 1 ng/L level for dieldrin, DDE, DDT, PAH, and PCB. The calculations using 1.5 ng/L are typical for these pollutants.

DIELDRIN

Concentration after mixing	1.50025	
Percent Increase	0.0167	
Increase ng	0.00025	ng
Criteria, ng		% of criteria
Fish consumption	0.076	0.329
Fish/water ingestion	0.071	0.352
Drinking MCL (DEQ)	---	
Drinking Water MCL (EPA)	---	
Chronic	1.9	0.013
Increased Risk?	No	

DDE

Levels of DDE/DDT found in some fish (carp, peamouth, sucker) exceed health criteria, Oregon and Washington state Health Departments have issued recommendations regarding fish consumption for particular groups (see above). Reduced bald eagle reproduction in Lower Columbia River has been noted by the USFWS (USFWS, 1996).

The US Department of Health and Human Services (DHHS) has determined that DDT may reasonably be anticipated to be a human carcinogen. DHHS has not classified DDE and DDD, but the Environmental Protection Agency (EPA) has determined that they are probable human carcinogens.

DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane) was a manufactured chemical widely used to control insects on agricultural crops and insects that carry diseases like malaria and typhus. It does not occur naturally in the environment. DDT is a white, crystalline solid with no odor or taste.

Because of damage to wildlife and the potential harm to human health, the use of DDT was banned in the United States, except for public health emergencies. DDT is still used in some other countries.

Two similar chemicals that sometimes contaminate DDT products are DDE (1,1-dichloro-2,2-bis(chlorophenyl) ethylene) and DDD (1,1-dichloro-2,2-bis(p-chlorophenyl) ethane). DDD was also used to kill pests, but its use has also been banned. One form of it has been used medically to treat cancer of the adrenal gland. DDE has no commercial use. (*Toxicological Profile for DDT/DDD/DDE (Update), US DHHS, 2001,* and ToxFAQs).

The following table is for DDE, assuming 0.0015 µg/L = 1.5 ng/L concentrations.

DDE

Concentration after mixing	1.50025	
Percent Increase	0.0167	
Increase ng	0.00025	ng
Criteria, ng		
Fish consumption	---	% of criteria
Fish/water ingestion	---	
Drinking MCL (DEQ)	---	
Drinking Water MCL (EPA)	---	
Fresh acute	LOEL 1050 µg/L	2.4 E-8
Increased Risk?	No	

Conclusion: This discharge is not expected to use a significant portion of the Columbia River's assimilative capacity.

Criterion 2: Cost of Treatment Technology. The cost of improved treatment technology, nondischarge, and limited discharge alternatives shall be evaluated.

Conclusion: The currently proposed technology, including the influent/effluent heat exchanger, is the most cost effective alternative in reducing heat load.

COMPLIANCE HISTORY

None.

PROPOSED PERMIT

The proposed permit is attached.

Common ranges of soil concentrations of heavy metals are taken from *The Nature and Properties of Soils*, 9th Edition, 1984, by Nyle Brady.

The data used for the calculations are as follows:

Amount of water = 3.15×10^6 gallons/day = 11.9×10^6 L/d
1000 acres of area = 400 hectares
40 years of anticipated lifespan of facilities
92 days per year of application

11.9×10^6 L/d x 92 d/year x 40 years = 43.8×10^6 m^3 of total discharged water

For cadmium, we get 5.05 mg/m^3 x 43.8×10^6 m^3 = 221 kg of cadmium

221 kg cadmium/400 ha = 0.55 kg/ha

Assume a soil density of 1.3 Mg/m^3. The exact value isn't critical, but a different value can easily be substituted in. A hectare has an area of 10 000 m^2. For water penetration of 0.1 m, we get a volume in 1 hectare of 1000 m^3. If we look at cadmium again, we get

0.55 kg/(1000 m^3 x 1.3 Mg/m^3) = 550 g/(1000 m^3 x 1.3 Mg/m^3) = 0.42 g/Mg

The following table shows how the loadings compare to common ranges from Brady's book.

Element	Common range, g/Mg	Loading, kg/ha	Concentration for 0.1 m penetration, g/Mg	Concentration for 1.0 m penetration, g/Mg
Cadmium	0.1 – 7	0.550	0.42	0.04
Copper	2 – 100	0.75	0.58	0.06
Lead	2 – 100	0.55	0.42	0.04
Mercury	----	0.029	0.022	0.002
Zinc	10 – 300	1.3	1	0.1

340-041-0026(3)(b)(B) Considerations of Economic Effects Criteria:

Criterion 1: Value of Assimilative Capacity. The assimilative capacity of Oregon's streams is finite, but the potential uses of this capacity are virtually unlimited. Thus it is important that priority be given to those beneficial uses that promise the greatest return (beneficial use) relative to the unused assimilative capacity that might be utilized. Instream uses that benefit from reserve assimilative capacity, as well as potential future beneficial use, will be weighed against the economic benefit associated with increased loading.

340-041-0026(3)(a)(J) The activity, expansion or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans as evidenced by a statement of land use compatibility from the appropriate local planning agency.

Conclusion: The Port has filed a land use compatibility statement with Columbia County. It has been approved.

340-041-0026(3)(b)(A) Considerations of Environmental Effects Criteria:

Criterion 1: Adverse Out-of-Stream Effects. There may be instances where the discharge or limited discharge alternatives may cause greater adverse environmental effects than the increased discharge alternative.

Conclusion: This has been assessed in the anti-degradation analysis. The influent/effluent heat exchanger appears to have fewer environmental impacts and much lower energy consumption than any other alternative for reducing heat load.

Criterion 2: Instream Effects. Total stream loading may be reduced through elimination or reduction of other source discharges or through a reduction in seasonal discharge. A source that replaces other sources, accepts additional waste from less efficient treatment units or systems, or reduces discharge loadings during periods of low stream flow may be permitted an increased discharge load year-round or during seasons of high flow, as appropriate.

Conclusion: Zero-liquid discharge technology was considered. The system considered by the applicant consists of makeup pretreatment, a wet cooling tower, an ion exchange softener with filter, a reverse osmosis unit, a brine concentrator, and a dryer. However, the influent/effluent heat exchanger will have significantly lower environmental impacts and energy consumption than zero-liquid discharge technologies, and at a significantly lower cost.

Criterion 3: Beneficial Effects. Land application, upland wetlands application, or other non-discharge alternatives for appropriately treated wastewater may replenish groundwater levels and increase streamflow and assimilative capacity during otherwise low streamflow periods.

Conclusion: Land application during summer operation was considered. The applicant rejected land application because of reliability issues. The neighboring farm would have to stay in operation and groundwater levels would have to stay low enough for the land to absorb the water. The influent/effluent heat exchanger would have lower environmental impacts and lower energy consumption than land application.

Furthermore, the applicant mentioned the possibility of heavy metal contamination of irrigated soil. This seems unlikely. Using the data on pp. 8 and 27 of the application we can calculate loadings.

Increased Risk?	No	

PCB

Levels of PCBs found in some fish (carp, peamouth, sucker) exceed health criteria, OR/WA Health Depts. Have issued recommendations regarding fish consumption for particular groups (see above); reduced bald eagle reproduction in Lower Columbia River noted (USFWS, 1996).

PCBs do not readily break down in the environment and thus may remain there for very long periods of time. PCBs can travel long distances in the air and be deposited in areas far away from where they were released. In water, a small amount of PCBs may remain dissolved, but most stick to organic particles and bottom sediments. PCBs also bind strongly to soil.

PCBs are taken up by small organisms and fish in water. They are also taken up by other animals that eat these aquatic animals as food. PCBs accumulate in fish and marine mammals, reaching levels that may be many thousands of times higher than in water.

The Department of Health and Human Services (DHHS) has concluded that PCBs may reasonably be anticipated to be carcinogens. The EPA and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans.

Adults and children may be exposed to PCBs by eating fish or wildlife caught from contaminated locations. Certain states, Native American tribes, and U.S. territories have issued advisories to warn people about PCB-contaminated fish and fish-eating wildlife. People can reduce exposure to PCBs by obeying these advisories.

PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build up in the environment and can cause harmful health effects. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils. (ATSDR ToxFAQs.)

The following table is for PCB, assuming 0.0015 µg/L = 1.5 ng/L concentrations.

PCB

Concentration after mixing	1.50025	
Percent Increase	0.0167	
Increase ng	0.00025	ng
Criteria, ng		% of criteria
Fish consumption	0.079	0.316
Fish/water ingestion	0.079	0.316
Drinking MCL (DEQ)	---	
Drinking Water MCL (EPA)	500	0.00005
chronic	14	0.00179
Increased Risk?	No	

like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides. (ATSDR ToxFAQs.)

USGS lipid bag data taken along the length of the Columbia River show PAHs concentrations at nine mainstem sites during low-flow conditions in 1997 (USGS, 1999). The nine sites and their river mile are: Bradwood (39), Beaver Army Terminal (54), Longview (69), Columbia City (82), Hayden Island (102), Warrendale (141), Umatilla (289), Vernita Bridge (388), and Northport (735). Concentrations range from non-detect to 2100 nanograms per SPMD (semi-permeable membrane device or lipid bag). Concentrations in tributaries go as high as 3900 ng/SPMD. The estimated dissolved concentrations of PAHs range from not calculable to 10,000 picograms per liter. Concentrations in tributaries go as high as 20,000 pg/L. The estimated total concentrations of PAHs range from not calculable to 7000 picograms per liter. Concentrations in tributaries go as high as 20,000 pg/L. Some concentrations are not calculable because all information required for calculation was not available.

The US Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

It is not known whether these effects occur in people.

Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

The following table is for PAH, assuming 0.0015 µg/L = 1.5 ng/L concentrations.

PAH

Concentration after mixing	1.50025	
Percent Increase	0.0167	
Increase ng	0.00025	ng
Criteria, ng		% of criteria
Fish consumption	31.1	0.0008
Fish/water ingestion	2.8	0.0089
Drinking MCL (DEQ)	---	
Drinking Water MCL (EPA)	---	
Marine acute	LOEL 300 µg/L	8.3E-8

DDT

See comments above under **DDE**.

DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took only small doses of DDT by capsule for 18 months. People who worked with DDT for a long time had some reversible changes in the levels of liver enzymes.

In animals, short-term exposure to large amounts of DDT in food affected the nervous system. In animals, long-term exposure to DDT affected the liver. Animal studies suggest that short-term exposure to DDT in food may have a harmful effect on reproduction.

DDT entered the environment when it was used as an insecticide. DDT in air lasts for only a short time. Half the DDT in air is gone within 2 days. It does not dissolve easily in water. DDT sticks strongly to soil particles and does not move quickly to underground water. DDT lasts a very long time in soil; half the DDT in soil will break down in 2–15 years. Some DDT will evaporate from soil and surface water into the air and some is broken down by sunlight or by microorganisms in soil or surface water. DDT in soil usually breaks down to form DDE or DDD. Levels of DDT build up in plants and in the fatty tissues of fish, birds, and animals.

Because of the ban on DDT use after 1972, fewer persons in the United States should be exposed to high levels of these compounds today than in the past.

The following table is for DDT, assuming 0.0015 µg/L = 1.5 ng/L concentrations.

DDT

Concentration after mixing	1.50025	
Percent Increase	0.0167	
Increase ng	0.00025	ng
Criteria, ng		% of criteria
Fish consumption	0.024	1.04
Fish/water ingestion	0.024	1.04
Drinking MCL (DEQ)	---	
Drinking Water MCL (EPA)	---	
Chronic	1	0.02
Increased Risk?	No	

PAH

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances

Port of St. Helens
Literature Review of Potential Impact of Thermal Discharge on Salmonid Use

Introduction:

The Port of St. Helens proposes to discharge up to 7.5 CFS of heated water approaching 30C to the Columbia River. Since the proposed discharge maximum temperature of 30° C exceeds the basin criteria of 68° F (20° C). The proposed discharge therefore has the potential to add or contribute to the water quality limited status of the Columbia River during the summer months. The Columbia River has been listed as water quality limited during the summer period due to the exceedance of the state water quality standards contained in OAR 340-041-0205(b)(A)(ii).

A literature review was undertaken as part of the Departments evaluation of the proposed discharge. The review focused on relating the potential impact of the discharge to the temperature requirements in administrative rules. This information can then be used to determine compliance with the applicable temperature standards. This review describes the applicable standards, provides a literature review, and evaluates the potential impact of the proposed discharge.

Applicable Standard for Temperature:

The current temperature standard developed during the 1992-94 triennial review became effective July 1, 1996. Temperature requirements are addressed in three sections of the rules, policies and guidelines generally applicable to all basins, implementation plans generally applicable to all basins, and the individual basin criteria. The standards contain both numeric and narrative criteria. The temperature standard memorializes the policy of EQC to protect the aquatic ecosystem from adverse surface water warming caused by anthropogenic activities. The intent of the standard as defined in rule is to minimize the risk to cold-water ecosystems from anthropogenic warming of surface waters, to encourage the restoration of critical aquatic habitat, to reverse surface water warming trends, to cool the waters of the state, and to control extremes in temperature fluctuations due to anthropogenic activities.

The temperature standard reads in part that unless specifically allowed under a Department approved temperature management plan, no measurable surface water temperature increase resulting from anthropogenic activities is allowed (ii) in the Columbia River ....when water temperatures exceed 68° C (20°C). The Columbia River exceeds 20° C in the summer. Data analysis conducted by Environmental Protection Agency (US EPA) in support of a thermal Total Maximum Daily Load (TMDL) shows that anthropogenic activities at times result in a measurable increase (greater than 0.25° C) in stream temperatures. A TMDL has not been completed for temperature in the Columbia River. Since this is a proposed new source, a temperature management plan would be required for any discharge permit. The discharge must also meet the requirements for a new source discharge to a water quality limited stream.

New Source Discharge Requirements:

The requirements for a new source discharge to a water quality limited stream are contained in specific sections of the State anti-degradation policy, OAR 340-041-0026(3)(F). For the period when the Columbia is water quality limited (WQL) for temperature, this rule requires in part that:

1. New or increased loads are allowed a cumulative 1.0° F increase in surface water temperatures as the surface water temperature management plans are being developed and implemented provided that the new source, even with the resulting 1.0° F increase, will not conflict with or impair the ability of a surface water temperature management plan to achieve the numeric temperature criteria; and

2. A new source must demonstrate that it fits within the 1.0° F and that its activities will not result in a measurable impact on beneficial uses. The latter showing must demonstrate to the Department

that the temperature change due to its activities will be less than or equal to 0.25° F under a conservative approach or by demonstrating the same to the EQC with appropriate modeling.

Exceptions under New Source Requirements OAR 340-041-0026(3)(a)(G)(i - ii) and H:

Under section (3)(a)(G) of these rules, any source may petition for an exception to the new source requirements in paragraph (3)(a)(F) above provided:

1. The discharge will result in less than 1.0° F increase at the edge of the mixing zone; and

2. Either:
   a. The source provides the necessary scientific information to describe how the designated beneficial use would not be adversely impacted; or
   b. The source demonstrates that:
      i. It is implementing all reasonable management practices;
      ii. Its activity will not significantly affect the beneficial uses; and
      iii. The environmental cost of treatment necessary to assure full protection would outweigh the risk to the resources.

These exceptions allow the Department to permit a new source discharge by making either one of two series of findings. The first series of the findings has two parts. First, that the discharge will not create a one degree increase at the mixing zone. Second, that beneficial uses would not be adversely impacted. Alternatively, the second series of findings contain three parts that all reasonable practices are being implemented, that there will be no significant impairment to use, and that the environmental costs of full protection outweigh the risk to the resource.

Under section (3)(H), a source may petition the EQC for an exception to the requirements in paragraph (F) provided the source provides the necessary scientific information to describe how the designated beneficial use would not be adversely impacted or the source demonstrates that:

1. It is implementing all reasonable management practices;
2. Its activity will not significantly affect the beneficial uses; and
3. The environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resources.

The DEQ provided clarification to EPA during their review of proposed standards that sections (3)(F) and (G) of this rule defined an implementation policy for OAR 340-041-0026(3)(C). These paragraphs clarify under what conditions the Department could allow an increased load to a water body that is water quality limited for temperature. A TMDL still must be developed in order to comply with the applicable water quality standards. The waste load allocation (WLA) assigned in the permit for the new source would target the appropriate temperature criteria using a conservative approach. The DEQ also clarified that the proposed increase would conservatively assure the cumulative temperature increase would not exceed the numeric criteria.

The DEQ further clarified that the exception in section (3)(H) is a variance policy by which the Environmental Quality Commission (EQC or Commission) could allow a new source until the TMDL was done. The variance would be submitted to EPA for review and approval. Any variance would be reviewed under the TMDL or upon permit renewal.

Discharge to a WAL stream (OAR 340-041-0026(3)(a)(C-D)

The Department interprets the specific requirements for new or increased thermal discharges contained in OAR 340-041-0026(3)(a) (E), (F), (G), and (H) to provide guidance for making the findings contained in the general requirements for new discharges to WQL streams contained in OAR 340-041-0026(3)(a)(C). The proposed discharge must also conform to remaining sections of the anti-degradation policy specific to temperature. Section OAR 340-041-0026(3)(a)(D) further identifies the state's policy related to water temperature. In part, this rule states that a temperature management plan is required for any water body that exceeds the temperature

criteria. For point sources the surface water temperature management plan must be part of the permit. The requirements of the plan may be based on the contribution of the segments(s) to the temperature problem. The plan that the sources implement must:

1. ..."describe the BMPs, measures and control technologies which will be used to reverse the warming trend"; and

2. Continue to maintain and improve the plan until the criterion is achieved or until ..."all feasible steps have been taken to meet the criterion and that the designated beneficial uses are not being adversely impacted"... DEQ's determination will be based on, but not limited to, a site-specific balance of criteria, including protection of beneficial uses, appropriateness to local conditions, use of best treatment technologies or management practices/ measures, and cost of compliance.

Under the new source rules, OAR 340-041-0026(3)(a)(D) (vii), a source complying with the approved surface water temperature management plan shall not be deemed to be causing or contributing to a violation of the numeric criterion if the surface water temperature exceeds the criterion.

Implementation Plan Applicable to all Basins (OAR 340-041-0120 (11)):

The proposed discharge must also comply with the EQC's policy on temperature contained in the implementation program applicable to all basins (OAR 340-041-0120(11)). These policies provide narrative criteria describing expectations for the implementation of a temperature standard. These criteria state in part that it is the policy to:

1. Encourage the proactive development and implementation of control technologies to prevent thermal pollution; and

2. Require the development and implementation of temperature management plans that limit or eliminate adverse anthropogenic warming of surface waters.

The EQC determined that surface water temperatures in general are warming throughout the state and that each source is responsible for controlling, through implementation of a management plan, only that portion of the temperature increase caused by the source. The EQC recognized that the implementation of control technologies is evolving and the achievement of the temperature criteria is an iterative process.

In paragraph (e) of OAR 340-041-0120(11), the EQC describes the expectation for surface water temperature management plans when the relevant numeric temperature criteria are exceeded. These plans may be for an entire basin or a single point source. Sub-paragraph (C) of OAR 340-041-0120 (11) states DEQ will be responsible for determining the appropriate surface water temperature management plan for individual sources. The plan must be appropriate to the contribution the permitted source makes to the temperature problem, the technologies and practices available to reduce thermal loads, and the potential for trading or mitigating thermal loads.

Basin Specific Standards (OAR 340-041-0205(b)(A)):

The proposed discharge could also occur during the period of the year that the Columbia is not water quality limited. The discharge must either comply with three applicable criteria of the temperature standard contained in OAR 340-041-0205(b)(A) or seek a variance as allowed under section (b)(C) of this rule. The applicable criteria are that there can be no measurable increase in temperature unless specifically allowed under a temperature management plan:

(v) In waters determined by the Department to be ecologically significant cold-water refugia;

(vi) Instream segments containing federally listed threatened and endangered species if the increase would impair the biological integrity of the threatened and endangered population; and

(vii) If the DO (dissolved oxygen) levels are within 0.5 mg/l of the standard.

The Department interprets sub-paragraph (ii) of this rule to be exclusive of sub-paragraph (I) but inclusive with the other sub-paragraphs (iii - vi) of this paragraph.

The variance allowed under section (b)(C) of this rule allows the commission to grant exceptions to sections (A)(I)-(vii) of this rule if:

1. The source provides the necessary scientific information to describe how the beneficial uses would not be adversely impacted; or

2. A source is implementing all reasonable management practices, the beneficial uses would not be significantly affected, and the cost of treating the parameter to the level necessary to assure full protection would outweighs the risk to the resource.

The Department clarified that this exemption will for most cases be a variance policy which allows the temperature to increase by a specified amount for a limited period to allow an existing source to discharge to WQL waters until a TMDL is done.

Several applicable sections of the temperature standard refer to a "no measurable increase" in temperature or its equivalent, 0.25° F. The Department interprets these references to apply at the edge of the assigned mixing zone. The Department interprets an approved temperature management plan of the temperature standard to supercede the general language in the mixing zone standard (OAR 340-041-0205(4)(B)(b)(ii)) that states the water outside the boundary of the mixing zone shall meet all other water quality standards. However, the potential impact of temperature on beneficial uses is applicable to the remainder of the mixing zone standard. The potential for temperature to impact beneficial uses must be considered when determining the size and placement of the mixing zone. Specifically, the location must minimize adverse effects on biological community, effects on beneficial use, allow passage for aquatic organisms and not create acute lethality within the zone of initial dilution or chronic toxicity outside the zone of initial dilution.

Mixing Zone Requirements:

In making the findings under OAR 340-041-0026(3)(a)(F)(i)-(ii), the finding must be made that there is impact to beneficial use. This finding can be made by demonstrating no measurable increase outside of the mixing zone. Mixing zone requirements are contained in each basin OAR 340-041- [Basin](4). In part these rules state that the mixing zone should be designed and placed to protect in-stream water quality and beneficial uses, be small as feasible, minimize adverse effects on beneficial uses outside the mixing zone, and minimize adverse effects on biological communities especially when species are present that warrant special protection. To appropriately site and establish a mixing zone the Department must meet the requirements of showing that beneficial uses are protected.

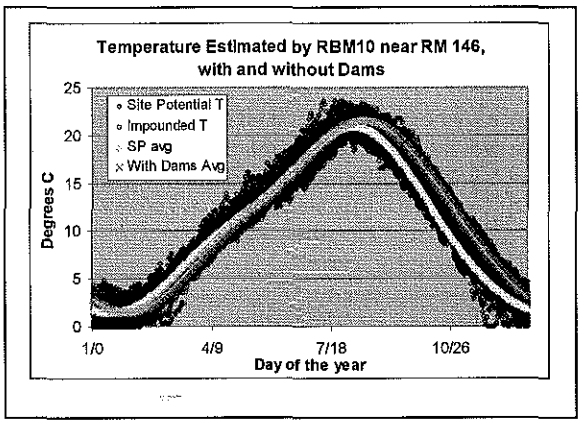
Applicant's Claim:

The applicant claims that it will comply with the temperature standard because the proposed discharge is calculated to have less than a 0.25° F increase outside of the assigned mixing zone. A literature review provided by the applicant is used to indicate that fish can detect and avoid the temperature plume. The applicant believes there may be some, but likely insignificant, influence on the salmonid species present. The applicant provided mixing zone reports to show the diffuse design and placement minimizes the potential impact of the discharge on beneficial uses.

Department's Review :

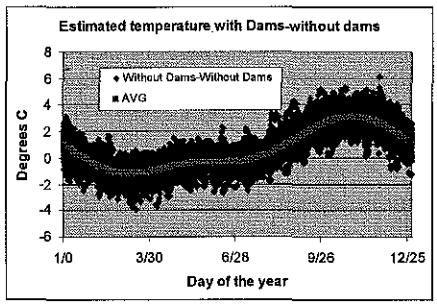
Under OAR 340-041-0026(3)(a)(F)(i)-(ii), the Department must make two positive findings to permit a new discharge without exception. The first finding is that the increase with the allowed 1° F increase would not

impair the ability to meet the numeric criteria. The second finding the Department must make is that the source will not increase temperature by 0.25° F outside of the mixing zone.



The Department interprets the criteria of 68° F (20° C) to be the applicable numeric criteria. The Department relied on the preliminary results of EPA's RBM10 model and analysis of the relative contribution of the proposed source to evaluate this finding.

The results of the RBM10 model demonstrate that site potential, without the influence of dams or point sources, the Columbia River would at times exceed the numeric criteria. The RBM10 model suggests that dams have a substantial influence on the stream temperature.



Maximum temperatures are similar under simulated conditions with and without dam scenarios. The dams appear to shift the period of peak temperatures later in the fall and result in warmer temperature throughout the fall.

The net influence of the point sources that discharge to the Columbia was estimated using a simplified heat balance equation along with the EPA RBM10 Model. Inputs were developed consistent with the USEPA RBM10 Model.

Condition simulated using simple heat balance	Estimated Peak Increase Due to point sources		
	Mode	Mean	95%
Annual Current	0.06	0.06	0.08
Current WQL July 17 - September 9	0.04	0.04	0.07
Annual No Dams	0.06	0.07	0.12
No Dams WQL July 17 – August 25	0.04	0.04	0.07
Effluent temperature estimated from DMR,s for major sources, Trojan Power Plant not operating			

Seasonal, hydraulic, and load variation was evaluated using a Monte-Carlo subroutine. The analysis suggests that under current conditions the influence of point sources on ambient temperature may approach, but would typically be below a measurable increase (0.14° C). During the period when the river may be water quality limited without the influence of the dams, the cumulative influence of point sources is expected to be less than measurable. The estimated influence of point sources on temperature in the Columbia is much less than the influence estimated for the effect of the dams. The Trojan power plant is permitted but not discharging. This discharge was therefore not included in the analysis. One or more significant discharges in Washington may not be utilizing their permit but were included in the analysis. This conservative approach likely overestimates the actual temperature influence of point sources.

The peak increase in temperature was estimated to occur near river mile 42 up to river mile 64. The maximum increase is the result of cumulated heat downstream and the influence of several major point source discharges from both Washington and Oregon in this stretch of river. The proposed discharge occurs within this stretch of the Columbia.

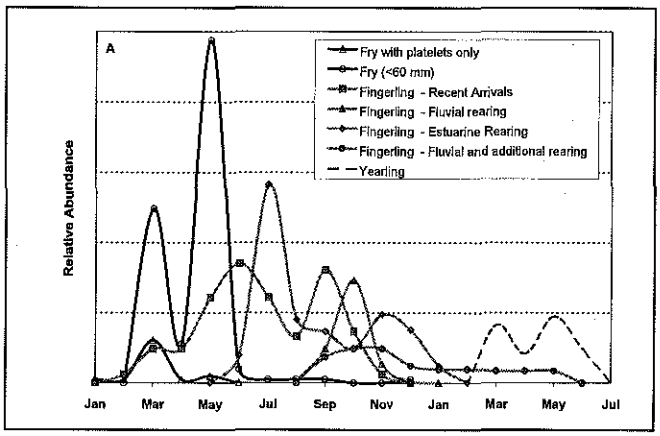
Effluent Q 7cfs Effluent T = 28C Ambient T = 20C	CFS	ΔTemp
1B3	7.98E4	0.0007
7Q10	8.84E4	0.00063
Harmonic Mean	2.09E4	0.00027
Estimated annual average temperature increase under existing conditions 0.0002 Estimated average increase during period when Columbia WQL = 0.00014		

The proposed discharge from the Port of St Helens can be estimated by a simple thermal balance under defined conditions. The estimated temperature increase from the proposed discharge is a negligible component of the anticipated influence of point sources and would be several orders of magnitude below a measurable increase (0.14° C).

The mixing zone analysis demonstrated that there will not be a measurable increase outside the assigned mixing zone. Dilution was estimated by in the updated mixing zone analysis as 140 in the zone of immediate dilution (zid) and 170 in the mixing zone (mz). Using an effluent temperature of 90F and a river temperature of 68F the anticipated increase in temperature at these dilutions is 0.16°F at the zid and 0.12°F at the mz .

The potential impact to salmonids depends in part on when they may be present in the vicinity of the discharge. The available information suggests that salmonids are naturally present in the area of the proposed discharge throughout the year, that existing temperatures exceed optimum levels and may approach lethal limits for those salmonids present.

Data on fish passage provides an index of when juvenile salmon may be present. From Bottom, et. al. (2001) it appears that juvenile salmonids were present in the Columbia River for much of the year. In addition Bottom observed that juvenile salmonids present in the Columbia River estuary have a more uniform size structure and relatively constricted migration period related to hatchery releases for current day life histories. Other studies, such as Raymond (1979) indicate human actions may have influence on the presence and timing of juvenile salmon in the estuary. For some stocks of juvenile salmon, travel times through the Snake and Columbia Rivers have doubled since the development of dams (Raymond 1979).



The life history of chinook salmon presence in the estuary was historically very complex. Fry continuously migrated to the estuary from early spring to early fall. Fingerlings arrived in the estuary throughout the year. Some individuals remained for extended periods while others probably migrated rapidly seaward. From study of historical fish scale and literature growth rate data, Bottom estimated a range of estuarine residence time of 8-57 days in July (average 27) and in August of 20-33 days. Bottom cites Dawley, et. al. (1986) that contemporary estuarine peaks in salmon abundance have been associated with the timing of hatchery releases. Bottom observed that our current understanding of estuarine habitat use in the Columbia is limited. Bottom cites several studies indicating the use of shallow water near shore habitats by sub yearlings, and that the mean sizes of sub yearlings increased in deeper water habitats supporting a hypothesis that as sub yearlings grew they migrated farther offshore. Deeper side channels were also observed to be used by juvenile chinook salmon use is limited. Dawley observed that both steelhead smolts and yearling chinook salmon move rapidly through the estuary to the ocean (Collis, et. al. 2000).

Much of the work reference of salmon use in the lower Columbia focused on chinook because they have the most extensive life history use of estuaries (Bottom 2001). Other salmonids will be present in the Columbia. For example, Moser, et. al. (1991) observed that coho juveniles moved rapidly through riverine portions of the estuary but would hold for long periods in areas with low velocity.

Even though salmonids are present during the summer, the Columbia River is water quality limited and is anticipated to exceed temperatures identified as optimum for cold water fish under site potential conditions. The observed and calculated site potential temperatures approach levels identified as lethal for the salmonids. For example, McCullough (1999) identifies a daily average temperature of 20° C and a range for daily maximum of 22-24° C as corresponding to an approximate distribution limit for salmonids.

The effect of temperature on salmonids has been widely studied and our knowledge has been reviewed periodically including Brett (1956), Talmage and Coutant (1978), ODEQ (1995) and McCullough (1999). The USEPA is reviewing the available information on temperature as part of its regional standards review. This review does not propose to review all the available temperature and metrics for measuring impact to salmonids.

The state triennial standards review incorporated much of this information in the development of water quality criteria. The numeric criterion of 20 °C for the Columbia is greater than the criteria used more broadly for the protection of salmonid rearing (17.7° C). The anticipated temperatures in the Columbia River will exceed these by several degrees. The water temperature working group for EPA identifies a perspective on the scientific evidence which suggests that small increases in temperatures (e.g.2-3° C) above the biologically optimal ranges can begin to reduce salmonid fitness (Water temperature Criteria Technical Workgroup, 2001). Although widely studied and reviewed, substantial uncertainty and debate still exists on how best to apply temperature requirements to protect salmonid resources.

Species	FTDMS	UTTL
Chinnook	24	25.1 (8.5 days
Coho	23.4	25 (6.3 days)
Chum	19.8	23.8 (6.3 days)
Rainbow	24	26.6 (1 day)
From Eaton et al, UTTL cited to Brett (1952), Charlon et al. 1970		

Temperature is a complex potential pollutant because any temperature change has some effect on the biota of a water body (Coutant 1972). Temperature directly effects physical measures of water quality, influences salmon migration, spawning, egg incubation, species diversity, fish physiology, and can limit available habitat. Each species, and often each life stage for a species, has a characteristic range of temperature that it will tolerate or survive that is established by internal biochemical adjustments made and acclimation temperature (Brett 1956).

Eaton, et al. (1980) evaluated a wide variety of field studies recording both temperature and fish species. Through these studies Eaton identified the maximum (highest 5%) weekly mean temperature associated with the presence of specific fish species and recorded them in the Fish and Temperature Database Matching System (FTDMS). Eaton then compared these temperatures to the literature-reported laboratory upper lethal temperature recorded as the Upper Thermal Tolerance Limits (UTTL). The weekly FTDMS were less than the laboratory UTTL. Eaton suggests that the difference between the FTDMS weekly maximum and the UTTL was less for coldwater fish than for warm water fish and suggest that the true field temperature tolerance might be greater than the FTDMS. It is, however, not possible to determine the true thermal exposure for fish presented in the field studies. Fish may be subject to migration, different diurnal patterns, or behavioral thermoregulation. Eaton further cites several authors noting that fish are able to detect small differences in water temperature and seek out preferred conditions.

Temperature associated with impairment	Magnitude	
	Moderate	Severe
Smolt Delay	12-14	14-17
Juvenile growth	18	21
Habitat use	15-18	16-21
Predation	16	21
Disease	15-16	18-21
Egg / larval (adult exposure)	15	17
From USEPA TMDL assessment 2001		

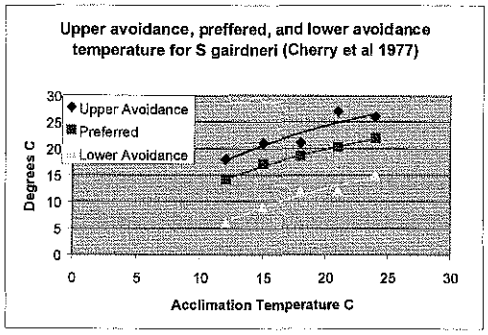
The river exceeds optimum temperatures and those cited by USEPA as associated with moderate to severe impact to the life stages of salmonids present. The observed temperatures approach temperatures that have been observed to limit presence of salmonids. Any increase in temperature, under these conditions and without mitigation, has the theoretical potential to impair endangered species. However, the magnitude of the temperature increase is several orders of magnitude below what is measurable. The risk of impairment is therefore not quantifiable.

The applicant provided substantial literature identifying that the salmonids may be able to avoid negative impact through behavior. Behavioral thermoregulation is well documented for salmonids and helps salmonids adapt through increased fitness and survival (Sauter, et.al 2001). Salmonids respond to both behavioral and evolutionary responses to thermoregulation. Similarly, Craddock (1976) observes that most fish are able to adjust to or avoid temperature changes if they are gradual.

Both juvenile and adult fish have the potential to encounter the heated effluent plume during their migration. The influence the heated plume will have on the fish will depend in part on the behavioral actions of the fish when it encounters the plume. Both adult and juvenile salmon have been shown to exhibit avoidance of heated water.

Grey, et. al. (1977) showed chinook salmon juveniles were able to detect temperature differences of 9-11° C and avoid the discharge by moving upstream in test chambers with an average velocity of 0.6 m/s. The higher

the change in temperature the more rapidly the fish responded and moved upstream. In the studies by Grey, juvenile fish were observed to show darting behavior and the initiation of muscle spasms at temperatures above 27° C, slightly lower than recorded for avoidance.



Avoidance appears to be dependent on acclimation temperatures. It is reasonable to assume that fish may be able to detect and avoid the effluent temperatures even when ambient temperatures approach and exceed numeric criteria of 20° C. The temperature that juvenile salmon would avoid was dependent upon acclimation temperature in a series of studies conducted by Stauffer, et. al. (1984). Rainbow acclimated at 6° C avoided temperatures of 18° C, fish acclimated at 18° C avoided temperatures of 24° C, and fish acclimated at 24° C avoided temperatures of 27° C. Avoidance temperature may be dependent on acclimation temperature. Cherry, et. al. (1977) studied several fish species, including rainbow trout (*S. gairdneri*) and observed that avoidance temperatures were a function of acclimation temperature for both upper and lower avoidance. The difference between upper avoidance temperature and acclimation temperature was greater at cold temperature. The preferred temperature increased with acclimation temperature. Cherry cites several authors showing a leveling off or a decline in preferred temperatures as acclimation temperature approaches lethal temperature. Cherry observed positive response between acclimation and both preferred and avoidance temperature for four centrachid, five cyprinid and two salmonid species. Cherry noted that this finding was similar to several other authors. The eurythermal more temperature tolerant species had relatively wide ranges between the upper and lower avoidance temperatures than did the salmonids. Grey, et. al. (1977) also observed that the mean plume temperature which fish avoided increased with increasing acclimation temperatures. Grey observed consistent avoidance in tests where temperature differences of 9-11°C were recorded.

Both field and laboratory studies generally indicate fish can detect and avoid plumes of lethal temperatures. Giattina. et. al. (1981) observed fewer fish and concluded that fish detected and avoided chlorine in a heated water discharge. Giattaina observed that in most cases the laboratory derived avoidance concentrations accurately reflected the concentrations that were found to elicit avoidance behavior by fish under natural conditions. McCauley, et. al. (1977) observed that fish regulated environmental and body temperature with the same precision as they selected temperature in a spatial gradient. Meldrim and Gift (1971) observed that estuarine fish would usually be able to detect and avoid thermal plumes that could cause acute shock. Similar to Cherry, et. al. (1975) and Peterson, et. al. (1971) the preference and avoidance temperatures were dependent on acclimation temperature. Mathews and Berg (1996) observed that trout were able to survive acute stream temperatures by finding thermal refugia created by cool water seep into pools. Snucinse and Gunn (1995) observed lake trout use cool near shore groundwater discharge sites in shallow lakes during periods of high temperatures. These studies do not simulate the potential condition where weakly swimming fish enter a thermal plume with little opportunity to detect elevated temperature. However, a thermal gradient may exist prior to entering a thermal plume. Akar and Jirka (1995) observed that buoyant upstream spreading occurs when a continuous buoyant source existing within a relatively weak ambient flow.

It may not be appropriate to rely exclusively on avoidance behavior to conclude a juvenile salmonid will not encounter a thermal plume. For example, Stauffer, et al.(1975) observed that in one of their experiments rainbow trout acclimated at 12° C, did not avoid lethal temperatures, swam into waters of lethal temperature and suffered mortality. At the highest ambient temperature of 13° C tested by Grey et al. (1977) some fish avoided the plume at differences of 4° C, but not at 6° C. In one study Grey observed fish that exhibited avoidance appeared to move along the raceway bottom and pass directly over the discharge orifice. At temperatures greater than 25-37°C spasmodic responses were recorded. Other studies show that fish behavior when faced with multiple demands, such a feeding, may enter a thermal plume that exceeds temperatures that may cause impairment or even death.

McCullough (1999) notes that the higher thermal preferences of young of the year salmonids may attract this age group to warmer downstream waters, improving growth opportunities. McCullough cautioned that as

seasonal temperatures increase the preference temperature of the young of the year age class decreases and this group is least capable of reactive behavioral thermoregulation because of limited swimming capacity. Several studies indicate that feeding behavior may also influence thermoregulation.

Feed availability has been shown to influence both salmonid behavioral and physical response to temperature. In a study by Brett (1971), sockeye salmon feed-restricted rations tended to prefer lower water temperatures than those fed to satiation, suggesting a relationship between feed and behavioral modification as shown by the daily vertical migration The salmonids remained at slightly lower water temperatures during the day and migrated to the surface to feed at night. Brett observed that fish that feed at higher surface temperatures and then move to deeper and colder water probably grow more efficiently with limited rations. Javaid and Anderson (1967) observed that starved rainbow trout selected temperature of 18° C and when fed selected 22° C. Grande and Anderson (1991) observed that five species of salmon would feed at temperatures near or higher than those temperatures which caused mortality among individuals. Thomas et al. (1986) observed that cyclic temperatures for 40-days did not influence the growth of age-0 fish fed on any of the food rations tested. In this study no age-0 fish or presmolts died until the diel temperature reached a diel range of 4-25° C. The authors note that feeding time may have affected results; since fish were fed when temperatures were increasing. Fluctuations at mean temperatures above the physiological optimum reduced growth in a study by Hokanson et al. 1977. Authors noted that high temperatures for 1-2 hours can kill juvenile coho; however, fish were able to feed and grow in fluctuating temperatures. Dickerson and Vinyard (1999) studied lahontan cutthroat trout exposed to chronic temperature stress. Fish experiencing the fluctuating regime were able to grow as much as fish held at constant temperatures near 23° C. The authors cited consistent results by Thomas et al. (1986) that coho salmon feed in fluctuating temperatures that approached upper lethal limits. Fish may stop eating at elevated temperatures but quickly recover their appetite when temperature is lowered (Elliot 1991). Takimi (1997) observed similar results where appetite was reduced as temperature approached lethal limits.

When fish are presented with competing demands they may exhibit competing behavior. Research on the effects of temperature in concert with other environmental parameters has shown how some salmonid behavioral traits, presumably adaptive, that may jeopardize health and survival in environments that are directly influenced by human actions (Birtwell et. al. 2001). Kosrtrom et. al. (2001) cite several authors, including Birtwell and Kruzynski (1989) showing that occupation of sub-optimal quality habitat may increase stress or death.

The competing behavior has been observed to influence avoidance behavior related to elevated temperatures. Fish studied by Munsen et. al. (1980) did not show a clear-cut avoidance as may be expected when fish were presented with a reward. Fish hesitated, but did enter water 12-15° C above acclimation to obtain food. The food was sought even at the expense of equilibrium loss and death among some of the population studied. Earlier studies by Munsen (1975) also showed juvenile rainbow trout would enter plumes in excess of the critical thermal maximum temperature in search of food. When fish acclimated at 15° C entered plumes of 21° C above acclimation, deaths were common and more than half of the population in two test tanks exhibited severe thermal shock. Munsen (1980) observed darting behavior, similar to that recorded by Grey et. al. (1977). Munsen et. al. (1980) noted the darting behavior indicates competing drives, perhaps both avoidance and feeding. A behavioral threshold was not observed, but temperature in excess of the critical thermal maximum does appear to create a physiological barrier. Neil and Magnunson (1974) observed that for bluegill and perch behavioral thermoregulation may be modified, but not overridden, by feeding behavior.

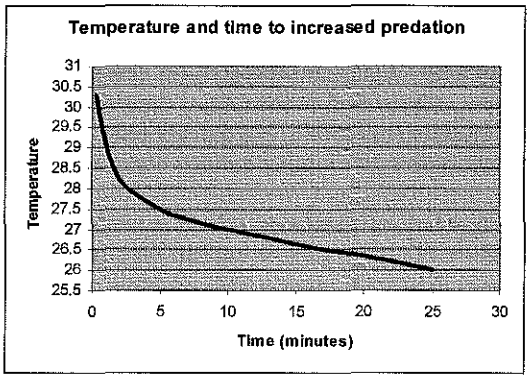
In a combination of field and lab studies Birtwell and Kruzinski (1989) also observed competing interactions between avoidance and other behaviors. Juvenile chinook, chum, and coho salmon in test cages reacted similarly in the studies conducted by Birtwell and Kruzinski (1989). Juvenile salmon were able to detect and avoid pulp effluents through vertical migration. The behavior was significantly correlated with in situ temperature, pH, and color. Birtwell et. al. (1998) further studied the vertical distribution of juvenile chum salmon in a thermal discharge to Port Moody Arm. The authors anticipated that the innate surface water orientation of these fish could be modified by the daily discharge of heated (27° C) water. Fewer fish were observed in the uppermost waters proximal to the thermal discharge. However, under the conditions observed the thermal plume did not control the vertical distribution of juvenile salmon. The juvenile salmon tended to occupy surface water habitats for which temperature occasionally exceeded optimum but not lethal temperature.

Korstom et. al. (1998) monitored changes in juvenile chum salmon in relation to temperature and food availability. Feed was presented in potentially lethal (≅ 24 °C) temperature of a thermally stratified test chamber. Data on swim speed, distance covered, and duration indicate that juvenile chum salmon were more likely to enter heated water when presented with food that they otherwise would avoid. Swim speed and duration of forays into potentially lethal temperature was significantly increased (Birtwell et. al. 2001). In similar tests juvenile chum salmon were observed to enter stratified temperatures near 30° C when food was presented, but was avoided without the presence of food. Fish were observed to make quick forays into a 0.74 m deep surface layer of heated water but to not stay for any length of time and suffered no obvious mortality (Korstrom 2002).

Temp	% of Fish	
	Food	No Food
18+	83	66
10.7	2	14
10	14	20
From Korstrom et. al. 1988		

Fish that encounter, and subsequently do not avoid, a plume may be subject to heat shock as they pass through or enter the plume. The effect of the thermal shock is dependent upon the magnitude and duration of exposure. Impact to fish could be measured as death, loss of equilibrium resulting in effective environmental death, increased predation, or sub lethal effects.

Coutant (1973) subjected juvenile fish acclimated at 17-19° C to a thermal shock by passing them through a heated effluent while predators waited outside the fluctuating shock temperatures. This experiment demonstrated that the time to initial vulnerability to increased predation was less than the time to loss of equilibrium, and less than the time to death. The thermal dose, times and change in temperature, for increased predation was about 10% of the thermal dose resulting in death (Coutant and Dean 1972). Exposure time of about 0.55 minutes at 30° C would appear to induce selective predation on thermally shocked fish.

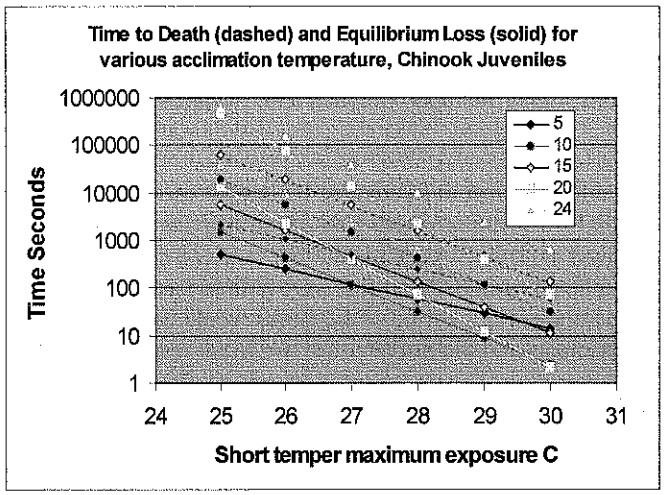


Shorter duration often made the shocked fish less susceptible than the controls to predation (Coutant 1973). Similarly, Deacutis (1978) observed that weak swimming larvae showed enhanced predation avoidance through increased escape response associated with sub lethal thermal shock. However, Yocom and Edsall (1974) suggest that a threshold of individual attacks, rather than successful predation as measured by Coutant (1973) may provide a more sensitive threshold for measuring predation to related to heat shock.

Yocom and Edsell (1974) also demonstrated the influence of sub lethal thermal shock on predation. Yocum and Edsell (1974) exposed whitefish fry acclimated to 5, 10, 15, and 18° C to a heated bath of 24.5, 25, 28, and 29° C respectively for a period of one minute. None of the fish died and less than 20% showed signs of loss of equilibrium. The whitefish were then exposed to attack by yearling yellow perch. The number of attacks associated with exposure to below 15° C was not significantly different. At the test above 15° C the number of whitefish captured was not significantly different for shocked or un-shocked fish. However, the catch per attack was significantly greater on the shocked compared to the un-shocked fish. Sylvester (1972) acclimated sockeye salmon smolts at 7, 12, and 17° C and subjected them to an increase of 10° C for one minute and returned them to a tank at the acclimation temperature containing predator. Similarly, fish were subject to 30° C for five seconds. The test juveniles were subject to both heat and cold shock and were found to be more susceptible to predation than controls.

Neitzel et. al. (1986) observed that juvenile salmon acclimated to maximum ambient temperatures of near 18° C could survive instantaneous thermal shock near 33° C. The dose response curves presented by Neitzel (1986) were similar to those presented by Coutant (1973). Neitzel et. al. (1986) observed that juvenile coho, chinook, steelhead, and northern squawfish which had survived the most severe thermal conditions, in which 100% of the fish survived, were not more susceptible to predation by larger rainbow trout or disease than were controls.

Juvenile fish where 50% of the population lost eqilibrium was preferentially selected by predators (Neitzle 1986).



Amour (1991) integrated the work of Coutant (1972) and Brungs and Jones (1977) to provide a form of equation to estimate and describe the relationships between time to death for 50% of the test species (LC_{50}), acclimation temperature and short term exposure to elevated temperature. Amour (1991) suggests applying a 2° C margin of safety recommended by Coutant (1972) to estimate survival without mortality. This extrapolation suggests that short-term survival is limited to a period of minutes or seconds when juvenile chinook salmonids are subjected to 30° C when acclimated at 20° C or less. The validity of the two-degree safety factor is based on several experiments that showed a minimum of 15-20% of the exposure time induced selective predation on thermally shocked salmon and trout. Coutant (1972) states this also amounted to a reduction of the effective debilitating temperature by about 2° C. Coutant (1999) observed that the National Academy of Sciences / National Academy of Engineering review has indicated that a resistant-time equation can be manipulated to estimate mortality under fluctuating temperatures. This type of analysis has been used extensively to estimate the directly lethal effects of lack of direct lethality from thermal discharges (NAS/NAE 1973).

Other studies also show that heat shock can result in acute mortality for coldwater organisms. Snyder and Blahm (1971) using small (35-55 mm) chinook and chum salmon observed first mortality for chinook salmon acclimated to 10° C occurring at near 100 seconds of exposure to 26.7° C. The level for 50% mortality occurred within 240 seconds at 26.7° C. Initial mortality for the chinook acclimated to 10° C occurred in 4 seconds at 32.2 ° C with 50% mortality occurring within 8 seconds. Snyder and Blahm (1971) acclimated chum salmon at 15.6° C and observed initial mortality in 2,670 seconds at 26.7° C, 15 seconds at 29.4° C, 6 seconds at 32.3° C, and 4 seconds at 37.8° C. Orsi (1971) observed that fingerlings acclimated at 21.1° C suffered complete mortality in as little as 4-6 minutes (240-360 seconds) when exposed to 31.1° C water. Stauffer et. al. (1984) studying rainbow trout observe that trout acclimated at 18° C has median survival time of 25.9 minutes when exposed to an instantaneous increase to 30° C. The median resistance time decreased to 8.6 minutes at a lower acclimation temperature of 12° C. Lyytikainen et. al. (1997) observed that acclimation temperature increased thermal resistance and that increased exposure temperature reduced survival. Mean survival time for Omar Arctic char acclimated to 6° C was three minutes at 27° C and 14 minutes for fish acclimated at 21.F° C and subjected to temperature of 28.6° C.

The resistance time of fish subjected to increased temperature is dependent on the acclimation temperature. Under ambient conditions the acclimation temperature may be difficult to define and dependent upon diurnal stream temperatures variation and fish behavior.

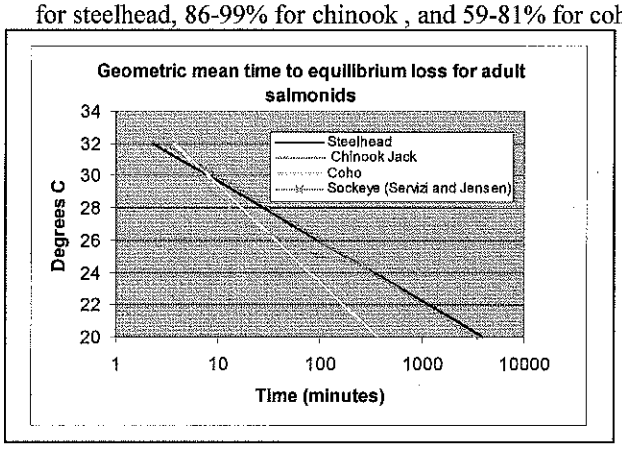
Median resistance time of rainbow trout tested at 30° C increased with increasing acclimation temperatures (Stauffere et. al 1984). At acclimation temperature of 6° C median resistance times was 2.74 minutes, at an acclimation temperature of 18° C it was 25.9 minutes. Similarly the upper incipient lethal level was related to acclimation temperature. Fry (1971) observed that incipient lethal temperature increased with increasing acclimation temperature for tallest fish. Stauffere et. al. (1984) as did McCauley et. al. (1977) observed that preferred temperature was not dependent upon acclimation temperature. Orsi (1971) also observed that thermal resistance measured as time to mortality was related to acclimation temperature.

Konecki et. al. (1995) observed that juvenile coho salmon taken from natural streams had critical thermal maximums that were higher (28.21° C – 29.23° C) than literature reported values. The tolerances for fish taken from warmer streams were greater than those from cooler streams. After three months' holding time in the laboratory the thermal tolerance was no longer different. Konecki suggests that the differences may be due to acclimation. Baker et. al. (1994) inferred an upper incipient lethal temperature from trawl data of Chinook salmon smolts migrating through the Sacramento San Joaquin River delta of California of 23.01° C +/11° C. The authors noted that their field observations are similar to upper incipient lethal temperature for juvenile chinook.

Thomas et. al. (1986) observed juvenile coho salmon subject to fluctuating temperatures. For fish acclimated to a cycling temperature between 10-13° C the lethal temperature where 50% of the fish die was about 28° C for 0-age fish and 26° C for presmolts. All fish survived a 4-25° C cycle and no fish survived a 2-29° C cycle. Fish that died usually did so within 23 hours. The authors concluded that fish were able to feed and grow at high fluctuation temperatures but that high diel temperatures for a period of 1-2 hours would be acute. The time period was longer than occurred for shock experiments and did not measure sub lethal response.

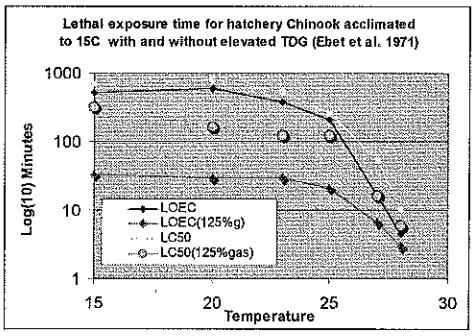
Sauter et. al. (2001) observed that temperature selection was dependent on life history. Juvenile fall chinook salmon selected water temperatures near 16.5° C during early smoltification. However, late smoltification fish selected water temperatures near or below 7.5° C and mean preference was near 11.1° C. The authors noted that the shift might serve to guide summer migrating fall chinook to the cooler estuary. The earlier spring chinook migrants did not show a change in preference temperature.

Adult salmonid may also be subjected to thermal shock when encountering a heated effluent plume. Coutant (1970) tested the thermal resistance of adult coho and steelhead and jack chinook to elevated temperature. The test fish were from the summer or early fall runs, which enter the Columbia near seasonally peak river temperatures. The time to equilibrium loss and death were recorded for different temperatures. Coutant noted that equilibrium loss may be considered "ecological death". Equilibrium loss time varied from 48-79% of death for steelhead, 86-99% for chinook , and 59-81% for coho. Incipient lethal temperatures for adult steelhead and chinook appeared to be near 21-22° C. Tests for chinook, however, were significantly different than a previous test, which showed fish with resistance being greater by a factor of 10. Coutant notes that juveniles were more resistant at low lethal temperatures up to about 28° C and adults are more resistant above that level.



Servizi and Jensen (1977) observed that survival time for adult sockeye was similar to that reported for juvenile, but was displaced slightly lower by about 1° C to 1.5° C indicating slightly less tolerance for adults. Loss of equilibrium preceded death, with the difference time between loss of equilibrium and death decreasing as temperature increased. Incipient lethal levels for adult Sockeye appeared near 24° C.

Other stresses may influence the response of salmonids exposed to temperature exceeding incipient lethal levels. Ebel et. al. (1971) showed that Columbia River juvenile salmon have lower tolerance for increase in temperatures when exposed to super saturation of total dissolved gas (TDG) in the range of 125-130%. The tolerance of juvenile salmonids to all tested temperatures was lower when exposed to the added stress of elevated TDG. Tolerance increased with acclimation temperature. Fish tested in deeper tanks, which allowed fish to seek compensation depths for TDG, survived at a much higher rate. This finding suggests that

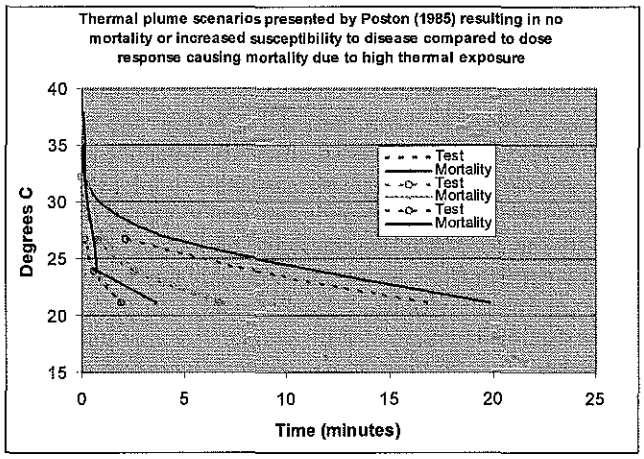


fish subjected to temperature increases in addition to nitrogen super saturation would be less affected if they had sufficient depth when they encountered the elevated temperature (Ebel et. al. 1971). Coho were the most tolerant, chinook next, and steelhead the least tolerant when exposed to combinations of lethal temperature and TDG.

Multiple stresses to a fish passing through a plume may also occur through cold shock. Coutant (1973) observed fish were subject to both heat and cold shock. The multiple shocks may have made them more susceptible to predation than would have occurred through heat shock alone. Spirgarelli, S.A., and M.M. Thommes (1979) observed that rainbow trout were attracted to and acclimated in heated effluent plumes. Craddock (1976) identifies that thermal discharge plant shutdowns have caused substantial mortality to fish acclimated to the thermal plume. Coutant (1972) provides an example where sockeye salmon acclimated to 20° C suffered 50% mortality in the laboratory when their temperature was dropped suddenly to 5° C. Cold shock can be avoided by limitation on the elevation of temperature increase where organisms may reside, controlling temperature reductions, or using a high-velocity diffuser such that maximum temperatures do not occur where organisms may become acclimated.

The amount of additional mortality which can occur and not impair the biological integrity of the population has not been identified. However, the dose response approach developed by Coutant with the 2° F margin of safety appears to provide a quantitative method for determining if a thermal shock will be below levels that may cause indirect mortality to adult and juvenile salmonids. Application of the dose response could be influenced by the potential for other stressors, such as total dissolved gas, to influence fish health. The effect of thermal shock on sub lethal stress is not as well developed.

Stress caused by sub lethal shock may increase fish susceptibility to disease or other stress. The effects of a three-hour temperature elevation of 7° C were studied for Brown Trout acclimated at 9° C and 12° C. Temperature shocks in the form of thermal plumes compromised the integrity of the skin and gill epithelia for a considerable period. Recovery occurred within 29 days (Nolan et. al., 1999). The authors note that exposure to chronic stress can reduce disease resistance. The authors cite Heikkila et. al. (1982) observing that modest increase in temperature can induce stress proteins.



Two studies simulating fish passage through a thermal plume indicated that sub lethal shock would not result in increased risk from disease. Neitzel (1986) simulated fish passage through a heated water discharge. Four species of fish (chinook, steelhead, coho, and northern squawfish) were acclimated at ≅18° C and subjected to a maximum heat shock 16° C above ambient conditions. Indirect mortality due to both predation and disease was evaluated using fish that survived the most severe thermal conditions for which 100% survival occurred. Over 280 predation and disease test were conducted. The disease organisms were *Flexibacter columnaris* or *Yersinia ruckeri*. None of the thermally exposed fish experienced increased mortality from predation or disease (Neitzel et. al. 1986).

Becker and Fujihara (1978) observed temperature stress might also compromise the immune system of fish, making them more susceptible to disease. Their assessment indicated that pathogeneses of columnaris is modified by water temperature in the Columbia River. The study by Becker and Fujihara (1978) was initiated by the concern that operations at Hanford might influence disease epizootiology. No evidence was gathered that the heated water discharge from operations at Hanford from 1944 through 1970 contributed significantly to the epizootiology of the columnaris among Columbia River fish. Infection may also impair the ability of juvenile salmonids to avoid predation (Mesa 1998 in Sauter et. al. 2001).

Poston et. al. (1985) in a similar study to Neitzel, evaluated the potential of increase disease response for Chinook juveniles passing through a simulated thermal plume. Fish were tested from studies that resulted in no mortality due to thermal exposure. Slightly increased exposure, from 1-2 seconds at 30° C up to 6-60 seconds at 30° C and 4-10 seconds at 35° C resulted in 80-100% mortality. No increase in mortality due to disease when compared to a control was observed for fish exposed to *Flexibacter columnaris* for a two day period. Every test that showed a significant difference in mortality rates showed greater mortality in the control. The author's hypothesis is that thermal stress may result in excess mucous production on gills and skin. This excess mucous may provide a barrier to infection. Neitzel (1986) observed that juvenile Coho, Chinook, steelhead, and northern squawfish which had survived the most severe thermal conditions in which 100% of the fish survived were not more susceptible to predation by larger Rainbow trout or disease than were controls. Juvenile fish subjected to where 50% of the population lost equilibrium was preferentially selected by predators (Neitzle 1986).

Greenbank et al. (2001) observed that exposure to a thermal plume had a variable effect on the growth and health of juvenile chum salmon. Where food was not limiting, increased growth occurred in the plume for fish exposed to temperatures below a threshold near ≅18.7-20° C, an experimentally derived thermal avoidance threshold. Above that threshold reduced growth of juvenile fish was found to be linearly related to the number of degree-days of exposure. There was no concentration dependent relationship to fish health. In a summary of studies related to a thermal discharge, Birtwell et al. (2001) observed that exposure of juvenile chum salmon to warm (20.7° C) water for 48 hours did not increase vulnerability to predation. However, exposure to warm water (≅ 20.7° C) and elevated total gas pressure (120-130%) did increase predation.

Sub lethal physiological affects were not usual endpoints for measurements in behavioral avoidance studies. One study by Luksiene et. al. (2000) measured a sub lethal endpoint associated with avoidance. Although fish were able to detect and move out of the heated plumes there seemed to be a conflict between fish temperature preference behavior and safeguarding sensitive impacts such as normal reproduction. Temporary exposure in high temperature thermal plumes in this study influenced gametogensis of female perch, roach, and pike. Elevated temperature exceeding 17-19° C have been shown to be related to sub-leathal effects in brood stock measured as infertility, embryonic development, and prehatch mortality (USEPA 2002, McCullough et al., 2001, Marine 1992 – in USEPA 2002).

The dose response curve suggested by Coutant with the 2°margin of safety appears a reasonable application to infer that heat shock will not significantly influence the beneficial uses. If exposure is below the applicable dose response curves, it appears reasonable to infer that a fish drifting through the plume will not be subject to significant acute mortality, environmental mortality due to equilibrium loss, increased predation, or sub lethal mortality such increased susceptibility to disease. Velocity differences between the plume and the ambient river may prevent fish from becoming entrained into the hottest water. A fish would not become entrained in the plume until mixing occurred (Dauble et. al. 1987). A fish would have to exert efforts to enter the hottest, zone of flow establishment, part of the plume. Juvenile salmonids are relatively weak swimmers. Swimming performance may be poor in the elevated plume temperature. Swimming performance above ultimate lethal (i.e. 26° C) temperature for sockeye salmon is about ½ the optimum and at 2.5 °C above ultimate lethal temperatures (i.e. 27.5° C) swimming performance virtually stopped (Brett 1967).

Elevated temperature may influence migration behavior. Avoidance behavior may also be important in assessing the potential for migration blockage of upstream adults. Daily maximum temperatures rising above 21-22° C are widely cited as causing thermal barriers to migration (McCollough 1999, ODEQ 1995, Boles G.L. 1988, WDOE 2000,). McCollough (1999) cites a temperature of 21° C as the upper range of temperature that may be assumed to be the upper range for inhibiting migration. Everest et al. (1987) identifies and cites Bell (1973) for a range of 3.3-20° C for successful upstream migration of adult salmonids. Falter and Ring (1974) showed water temperatures ranging from 3-23° C were positively correlated with migrations rates of rainbow trout (Gray and Haynes (1977)). The proposed effluent temperature of 30° C is great enough to influence migration. However, adult fish appear to be able to detect and avoid thermal plumes.

Becker (1971) in review of sonic tracking studies, observed that there is no apparent difference in migration rates below reactors which heated water 2-3° C above ambient and the cooler upstream reaches when summer temperature may approach 20° C. Fish tended to utilize the opposite shore. Johnsen observed the movements of eight migrating salmonids in the vicinity of a heated effluent. Fish remained at the upwind edge of the thermal plume moving in and out of the heated water. The thermal plumes in this area often lie across the migratory route of salmonids. In the fall salmonids are attracted to the discharge of water 10° C above ambient. Swimming speeds were slow and turns frequent. The fish remained in the study area for 3-22 hours with an average of 13 hours. After leaving the area of the thermal plume swimming speeds increased and straight courses were maintained, typical of fish tracked before the thermal plume was present.

In field studies Bermand and Quinn (1991) observed that fish in the Yakima River were able to maintain an average internal temperature 2.5° C below ambient river temperature. The authors note that behavioral thermoregulation in fish has been documented by several researches in the field and through laboratory experiments. The majority of fish were associated with island (67%) and pools and rock outcroppings (33%) along the bank. Migration appeared to be modified to optimize temperature regimes. Fish appeared able to mitigate sub lethal temperatures where suitable thermal refugia are available.

Coutant (1999), in a report to EPA, observed that documented thermal blockage has been observed for sockeye salmon entering the Okanagan River and Chinook entering the Snake River from the Columbia. Coutant notes that although river temperatures have changed, adult migration timing has not. Mean passage dates for adults in the lower Snake River dams have been near the third week in September since the early 1960s. However, McCullogh (1999) states that sockeye salmon have shifted their emigration timing to 6 days earlier since 1949. Despite potential changes in timing, fish are apparently migrating at times when the temperatures are approaching incipient lethal levels. EPA (2002) cite McCollough et al., that migration delay into natal streams has been observed when temperature exceeds 21° C and that adult fish cope with excess temperature by using thermal refugia. EPA hypothesizes that the delay may affect reproductive capacity.

Alabaster (1969) reports that based on field observations in Britain fish may escape lethal conditions near heated water outfalls consistent with observations from laboratory experiments. Alabaster notes minor fish kills only when effluent increased rapidly from 30.5° C to 36.5° C in three hours. Alabaster further notes that indirect effects of heated water may be important. Nakatani (???) summarized research near Hanford on the Columbia and noted that juvenile fish are likely swept out of heated plumes from a high speed diffuser, and that no migration blockage was observed since most adult salmon and steelhead that were tracked through the Hanford reach migrated on the other side of the river in shallow (1 to 3 meters) water.

Migrating adult salmon appear able to find cold water refugia and avoid lethal warm water plumes during migration. To minimize the potential impact of a thermal plume on migration the discharge should avoid habitat providing thermal refugia and holding areas to assure a zone of passage providing the habitat conditions selected by adult salmonids for migration. The rapid mixing of the proposed plume in the deep water channel and relatively small proportion of the river influenced by the plume indicates that migration will not be significantly influenced by the proposed discharge.

Placement and design of the outfall can have a significant effect on the potential impact of juvenile fish through several pathways. Placement and design will influence the rate of mixing, the potential exposure duration, and the risk of fish encountering the plume. The proposed discharge location is the Columbia River near Beaver Army Terminal at river mile 53. This section of the river is tidally influenced, with tide reversal, and above saltwater intrusion. Some generalities may be made regarding distributions. Salmonids tend to be surface oriented with limited use of the bottom of the navigation channel. The side channels and near shore area provide important habitat especially for sub yearling Chinook. The larger and older age classes of juveniles use deeper and higher velocity habitats. In order to limit risk, the mixing zone should be designed and placed to avoid critical areas and allow mixing to occur in habitats not frequented by salmonids.

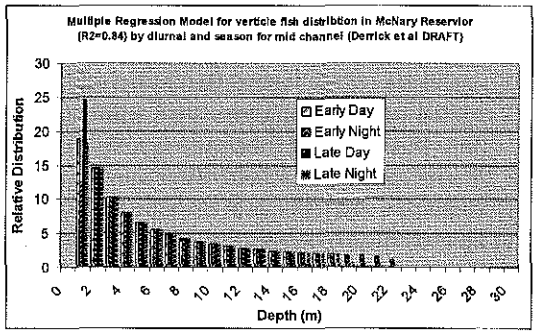
The National Marine Fisheries Service (NMFS) and United States Fish and Wildlife Service (USFWS) cite Carlson (2001) showing that the majority of salmonids do not use the bottom of the navigation channel. Analysis of hydro acoustic surveys showed that during the highest abundance of ESA listed salmonids only

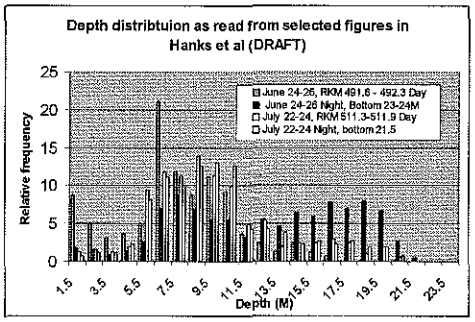
0.0017% of those fish were within three feet of the bottom during the daylight hours, 0.0249% were near the bottom. During the evening 0.0029% were near the bottom and during the night 0.0107% (NMFS). The NMFS notes the importance of shallow water and side channel refugia (NMFS 2001). Yearling fish are commonly found in areas of both low and relatively high current speeds as they rapidly migrate downstream. Generally, yearlings are not strongly shoreline-oriented, although some are found in shoreline areas. Yearlings tend to be surface-oriented but feed over a relatively wide range of depths, from the surface up to ten meters. In general the upper portion of water column habitat is used for salmonid movement, migration, and feeding. Deeper water column habitat in the lower Columbia River estuary is less used by salmonids, with water greater than 20 feet (6 m) believed by NMFS to be rarely used (NMFS 2001, USFWS 2001).

Gray and Haynes (1977) cite studies by Trefether (1963), and Monana et. al. 1970) indicating that adult salmon swam close to shore in water less than 10-13 meters deep. Gray and Haynes (197) observed that mean depth for pressure tagged Chinook salmon in multiple studies was between 3.1 and 5.8 meters, with few observations below 13 meters.

The behavior of juvenile salmon during their migration from tributary streams to the ocean is highly variable (Groot and Amrgolis 1991 IN Zabel et. al. DATE, Groot 1982, Hoar 1951). However, Collis et. al. (2001) cites several recent studies in the Columbia and notes that these studies indicate some similarities in migratory behavior. Steelhead and yearling Chinook tend to migrate mid-river at similar depths in upriver sites. The authors note additional study is needed to determine if the observed behaviors are consistent in the estuarine part of the river. However, information developed in other sections of the Columbia appears consistent with NMFS finding that salmonids would not be expected to be abundant in deeper mid-channel water.

Dauble et. al. (1989) observed that in the free flowing Hanford reach of the Columbia River, distributions of juvenile fish were different for each of the three most abundant groups of juvenile salmonids, fall chinook, spring chinook, and sockeye salmon. The larger out-bound migrants occurred in mid channel and in the deeper 8 to 12 meter portion of the channel. The smaller and hatchery 0-age fall chinook appeared to prefer the shallower shoreline areas. Dauble et. al. (1989) provides the example that diel patterns influence location. Spring chinooks were often abundant just after sunset in shallow (<30cm) near shore areas of low current velocity. This inshore appearance may have preceded active or passive downstream movement.





Dauble et. al. notes that the diel movements were consistent with those observed in previous studies of migrating juvenile salmonids in the Columbia River. Dauble notes that documented migration rates of juvenile salmonids in the Columbia River are consistent with the activity rhythms that include feeding, quiescent behavior, and active migration. Fish may use the mid-channel higher velocities for migration. Most sockeye salmon smolts were collected from midstream portions of the rivers utilizing areas of highest current velocity (Dauble et al. 1989 and Dames and Moore 1982 IN Dauble et al 1989). The apparent preference of juvenile sockeye salmon observed by Dauble (1989) contrasts to that observed for lentic populations which reportedly migrated primarily near the surface (Johnson and Groot 1963 IN Dauble et. al. 1989).

Several studies have been conducted to assess the distribution of juvenile salmonids as related to total dissolved gas in the Columbia River. Hanks et. al. cites Dauble to say that juvenile salmonids migrate in mostly deep water, up to 12 meters, in the free flowing Hanford Reach. Patterns of fish distribution in the lower and middle reaches were characterized by near shore orientation and vertical migration toward the surface during the day

(Hanks et al. Draft). The fish distributions illustrated by the authors show fish throughout the water column but more likely above the bottom. Only two of eight surveys presented by Hanks showed as much as 3% of the observations within two meters of the bottom. In two of the surveys, some of the fish may have approached depths near the bottom where they could then come in contact with a bottom plume.

Fiel et. al. (draft), in a companion document to Hanks (Draft), cites Smith (1974) as finding 58% of juvenile chinook salmon and 36% of steelhead were migrating in shallow depth, the upper 4 meters, of the reservoir. Using hydroaccoustic surveys, Feil et. al. (Draft) identified significant differences between daytime and night time distributions in McNary Reservoir. Feil found higher abundance of fish near the surface during the daytime. The authors cite several studies indicating that food resource availability, feeding behavior, and predation risk may influence diurnal behavior. Hanks also observed seasonal trends with the 80% of fish depth shifting closer to the surface as the season progressed. The authors suggest that the fish distribution shift may be a response to changes caused by the onset and progression of the smoltification process.

Feil and Rondorf (2000) observed that fish detected along the Washington and Oregon shores during the early and mid-may sampling periods moved shallower in the water column as the season progressed. Similar to Beeman et. al. (1988) data that indicate vertical migration of smolts occurred. Although these studies were for limited periods, data were generally consistent with indications of surface orientation for fish.

Species	Time	Depth (m)		
		Median	Min.	Max.
Chinook	Dawn	1.75	0.01	9.85
	Noon	2.05	0.01	10.73
	Dusk	1.15	0.01	7.72
	Midnight	2.02	0.01	6.1
Steelhead	Dawn	2.84	0.01	8.34
	Noon	2.55	0.01	3.86
	Dusk	2.28	0.01	6.64
	Midnight	3.28	0.01	5.66
Beemen et al (DRAFT) chapter 3				

Beeman used individually radio tagged juvenile chinook salmon and steelhead to observe both chinook and steelhead move frequently to varying depths. Median fish depth of chinook through the reservoir of 1-2+ meters and for steelhead of 2-3+ meters was above the reported reservoir depths of 5-20 meters indicating fish are not substrate oriented. Beemen observed a difference in migration behavior of fish released before and after mid-May, 1997. Fish released later entered shallow-water areas characterized by low water velocity and increased temperature, with depth less than 2 meters, and remained for several days. These studies indicate that fish moved freely up and down in the water column and therefore the same fish would not be expected to always encounter plumes on the bottom.

Differences in cross-sectional and diel patterns were observed. Higher fish densities were observed near the shoreline during the day in the lower and middle reaches of McNary Reservoir by Hanks et. al. During the night, areas of high fish density still occurred near the shoreline with some additional high-density areas extending out into the center of the river. In the upper reach most of the areas with high fish densities were near the center of the river regardless of time.

It is not clear how data on juvenile fish distribution and behavior in upstream free flowing reaches or reservoirs can be extrapolated to the tidally influenced river section below Bonneville. Fish distribution behavior appears influenced by numerous factors. However, other reported studies do indicate consistent observations regarding juvenile migration behavior for salmonids. Kwain and McCauley (1978) observed that during their first year of life, rainbow trout exposed to temperature gradients progressively selected cooler temperatures as they grew older. Smaller juveniles selected 19° C during the first months. Fish swam higher in temperatures gradients exposed to overhead illumination as compared to darkness during the first three months. This pattern change was reversed during the following 9 months. The authors note that the negative response to light by trout 4-12 months is in agreement with other authors showing rainbow trout exhibiting a negative phototaxis.

Birtwell and Kruzynski (1989) applied field studies and laboratory studies to observe that juvenile pacific salmon display a surface water and near-shore orientation during their downstream migration through an estuary. The authors cite other work noting that there was a tendency for larger (age 1+) individuals to occupy the faster flowing mid-channel waters while under-yearlings occupied shallower, slower water close to shore.

Everest et. al. observed that critical summer rearing and over wintering habitats along the edges and side channels of large streams are extremely sensitive to resource management. Hinton et. al. (1995) observe that shallow sub tidal habitat is valuable to juvenile salmon because of the presence of important prey. Becker et al. (1971) referenced studies showing that chinook juveniles are generally well distributed through the horizontal area of the river, but that they do exhibit a preference for the surface zone. Knutsen and Ward (1991) observed that in the lower Willamette River, both juvenile steelhead and chinook salmon were found near the surface.

North et al. (2001) (Draft) provide information in a progress report for a multi-year study of juvenile presence and distributions in the lower Willamette River. Their observations showed no cohort-specific patterns of distribution across the water column. However, chinook are more likely to be found close to shore. The authors noted that in order to define the association with between fish abundance and habitat it may be necessary to more accurately define habitat types. This study reported extremely high relative catch rates of juvenile salmonids at two sites that have a shallow gradient and sand bottom extending well out from the lower shore. Waite and Carpenter (2000) observed that for sites studied in the Willamette Valley ecoregion, water chemistry variables including total phosphate, minimum dissolved oxygen, pesticides, and maximum temperature become relatively more important in describing the variation in fish assemblages among sites and physical habitat less important.

Healey (1982) observed that chinook salmon juveniles extensively use estuaries. Chum and coho are typically abundant for a few months, but pink and sockeye typically spend little time in the estuary. Chinook, because of their varied life history patterns, have the most varied pattern of estuary utilization. In general for salmonids the tidal creeks, marshes, junctions of distributaries and delta fronts are favored habitats.

Placement of the outfall may also influence relative risk due to potential of competing behavior for feeding and avoidance. Although juvenile salmon diets vary considerably among estuaries and habitats relatively few taxa of insects comprised the bulk of the diet in multiple studies (Healey 1982; Kjelson et. al. 1982). Major prey appears to be detritus feeders. Normally the smallest chinook juveniles are captured near shore and the larger fish offshore. Busby and Barnhart (1995) observed their results are similar to those of Rondorf et. al. (1990) indicating that juvenile salmonid feeding was mostly neustonic, feeding in the surface film or just below the surfaces; sometimes at mid-depth.

Feeding habitats of juvenile chinook salmon were studied by Becker (1973) in the free flowing Hanford Reach of the Columbia River. The juveniles consumed almost entirely adult and larval stages of aquatic insects, commentated by midges. The development stages of the consumed insects reveal that most were flowing, drifting, or swimming when captured and relatively few were epibenthic or living within gravel interstices when captured (Becker 1973). Becker concludes that the fish are habitat opportunists that largely prey upon autochthonous river organisms drifting, floating, or swimming in the water. Busby and Barnhart (1995) also observed that chinook salmon are selective feeders and in freshwater estuary lagoon ate terrestrial, planktonic, and drift organisms. Busby and Barnhart (1995) cite Zedonis (1992) who observed in the lagoon that juvenile steelhead consumed mostly epibenthic macrofauna. Rondorf et al. (1990) observe that juvenile chinook salmon consistently preferred terrestrial insects in all months in the littoral riverine habitat of the Columbia River. Craddock et al. (1976) observed that for juvenile chinook in the Prescott – Kalama reach of the Columbia River zooplankters, especially Daphnia, were the major items in the diet from July through October whereas insects were the most important prey during the spring and fall. Similarly Simenstadt (1982) observed that in Puget Sound and Washington Coastal estuaries juvenile chinook have the most diverse prey, reflecting their extended estuarine residence and different habitat use. Smaller fry and sub yearlings in shallow habitats preyed principally on emergent insets and epibenthic crustaceans. In neritic habitats they feed upon small nekton and nuestonic drift insects.

Placement of the outfall may also influence the potential for increased predation due to heat shock resulting from encountering a plume. The Northwest Fisheries Science Center (2000) white paper reviewed available literature relative to predation on salmonids in the Columbia River. The white paper (2000) cites Shively et. al. (1996) as developing a basis for biological criteria for sighting smolt bypass systems so that predation by northern pike minnow would be minimized. A site that satisfies two of three criteria will generally protect smolts from northern pike minow predation. The three criteria are water velocity > 1m/second, a distance of > 75 meters from the shore, and water depth > 10 meters. Predator distribution was observed through radio-tags.

Preliminary assessment suggests that northern pike minnow and smallmouth bass utilize offshore habitat but are most likely to be found near shore. The walleye were recovered infrequently but were found offshore (North et. al. 2001).

The white paper cites several authors and identifies that impoundments increase availability of microhabitats within the range preferred by predators. The impoundments increase temperatures which may increase consumption rates by predators such as the northern pike minnow, and may increase stress and sub clinical disease of juvenile salmonids, which in turn could increase susceptibility to predation. Mesa (1994) observed that sub yearling spring chinook salmon stressed by handling were more vulnerable to predation. However, in a study of sub yearling fall chinook salmon stressed with high water temperatures did not show increased predation vulnerability to smallmouth bass (M. Meas IN Sauter et al). Mesa (1994) observes that the northern pike minnow are the predominant predator or juvenile salmonids and their predation rates are greatest just below dams. When equal numbers of stressed and unstressed juveniles salmonids were exposed to predation for up to one hour, significantly more stressed fish were eaten, but this effect was not evident during longer exposures. Coutant (1999) noted that it has been established that the reservoir behind the John Day dam is a site of high predation rates on juvenile salmon, especially under yearling fall chinook. Coutant's field observations have also shown juveniles swimming in a disoriented way, emaciated juveniles, and that the stomachs of predators are full of juvenile salmon. The influence of temperature may affect the population through predation rather than death.

The information on salmonid distributions does not provide a description of a physical condition where an outfall structure could be placed that would eliminate the potential for a fish coming in contact with a heated water plume. For large rivers like the Columbia it appears that the relative chance for a fish to encounter a plume is less the deeper the outfall structure is located. Field studies also indicate that the risk to fish that encounter the plume is much greater in shallow, lower velocity near shore areas as opposed to mid-channel plumes.

Shoreline discharges of heated effluent can create conditions causing significant mortality to caged fish drifted through the plume. Becker et. al. (1971) observed under simulated conditions designed to represent juvenile fish encountering a thermal plume that mortality of fish is primarily a function of temperature increase and exposure. Experimental cages were drifted through plumes occurring in shallow water near the river bank and through deep water in mid-channel. Shoreline drifts resulted in significant mortality to juvenile salmonids probably due to the combined effect of long duration and high changes in temperature. Mortality directly related to thermal shock was not observed for mid-channel drifts. During this series of experiments mortality in mid-channel drifts through a heated plume with temperature changes of 1.-4.8° C did occur during the July – August drifts. This study occurred during seasonal low flows and high temperature (18° C). The observed mortality was attributed to the result of combined stresses including relatively high ambient temperature. Shoreline discharges could also limit the important feeding areas. The EPA (2002) cites Becker (1973), Curret (1993) and Connor et al., (1999) that shallow water feeding areas in the Snake and Columbia rivers appear to become unacceptable to sub-yearling chinook salmon when temperature in these areas exceeds 17-18° C (63-64° F). The EPA hypothesizes that this may increase predation by forcing juveniles out of preferred habitat into habitat preferred by predators.

Thermal levels and mixing zone dimensions established to protect salmon should be protective of other cool and cold water organisms. The upper natural temperature limit of young shad may be about 30° C. Young shad avoid potentially lethal temperatures above 30° C and are capable of traversing heated effluents during downstream migration (Marcy et. al. 1972). The upper incipient lethal limits for the ammocetes of four lamprey species acclimated at 15° C was between 28 and 35° C. The upper incipient lethal level increased only slightly with increasing acclimation temperature (Potter and Beamish 1975). Mortality to adult Eulachon was studied by Blahm and McConnell and reported by Snyder and Blahm (1971). Initial mortality to eulachon acclimated at 10° C occurred in 2,160 seconds at 18° C, down to 18 seconds at 32° C. Gammon (1973) observed that, due to heated water discharges to the Wabash River, species with low optimum temperatures tend to move out of heated segments into cooler water while species with relatively high optimum temperature preference will move into heated water. The net result is a shift in species composition that becomes significant when the temperature exceeds about 31° C. Sherberger et. al. (1977) observed that differences in mortality between heat shocked and

control groups of drifting aquatic insects in a laboratory were not apparent until the shock temperatures approached the respective upper lethal limits for the two insects tested (*Isonychia* and *Hydropshyche*). Increased predation was not apparent as a result of sub lethal shock. Extrapolating these finding to a natural system, the authors believe that these insect would not suffer distinct effects while drifting through a thermal plume when ambient river temperatures and thermal increments added together were below 27-29° C. At 36° C and above significant mortality would occur in both animals. These projections do not include the potential additive affects of chlorine.

Cumulative impacts of multiple point sources and associated mixing zones are not assessed by application of a dose response curve for a single mixing zone. Because the integrated stress response comprises many nonspecific elements, most notably the drain of metabolic energy, the effect of many stressors is additive. Early life stages are typically more sensitive than adults to stresses such as pollutants and temperature. There is also evidence for innate differences in stress response in fish, different strains of salmon may react differently. The stress response is a highly adaptable, flexible response in fish. (Bonga 1997). Vigg and Koch (1980), studying two strains of lahontan cutthroat trout, observed that trout were less tolerant of high temperature in alkaline water of high pH than in fresh water of low pH. This is consistent with other cited authors. Vigg and Koch (1980) observed differences in thermal resistance associated with specific strains of trout. The authors note that the differences may have a genetic basis or are related to differential selection of acclimatization associated with habitat.

The dynamics of stress recovery in fish is poorly understood, but may be an important factor in thermal effects in many situations (Bevelhimer and Bennett 2002). Bevelhimer and Bennett site several authors to state that recent thermal history of a fish acclimates it to higher temperatures, thereby extending its tolerance limits. However, beyond a certain point, acclimation benefits are exceeded, and prolonged exposure to non-lethal temperature causes physiological stresses, which can reduce a fish's tolerance to high temperatures. Similarly, when temperatures drop below stressful levels, fish can recover. Temperature that cycles below the incipient lethal level seem to allow physiological repair such that prediction of death based just on duration will over-estimate mortality if the temperature cycles below incipient lethal (Bevelhimer personal communication 2002; Coutant personal communication 2002). Wedemeyer (1972) observed that juvenile coho salmon and steelhead trout acclimated to 10° C showed physiological stress when subject to a rapid (3 minute) increase in temperature to 20° C and then held at that temperature. Sub lethal stress recovery required at least 24 hours. Stress was greater on juvenile coho salmon than on steelhead trout.

Mesa observed that it seems that little correlation exists between predators' avoidance ability and clinical indicators of stress. Mesa (1994) observed that for up to one hour significantly more stressed fish were eaten, but this effect was not evident during longer exposures. The author suggests that juvenile salmonids are capable of avoiding predators within 1 hour after being subject to multiple acute stressors even though physiological homeostasis may be altered for up to 24 hours. The author cites Coutant (1973) that changes in prey interactions may be due to changes in the ratio of stressed and unstressed fish. Fry (1951) observed that speckled trout may survived short periods of exposure to lethal temperatures and do not accumulate lethal experience.

The Columbia River receives discharges from several point sources. The net influence of these point sources on temperature was calculated to be near, but below, measurable (0.25° F) levels. Heat added is carried downstream and some, but not all, is retained. In earlier assessments the thermal increment in the Hanford section was found to be about 65% dissipated at the Washington-Oregon border and about 80% dissipated at Warrendale downstream 200 miles (Becker 1973). The additional heat load proposed is not significant compared to the current heat load carried by the river. As observed by Greenbank (2002) the cumulative impact of a source on fish can be related to the number of degree-days a fish is exposed to temperature in excess of an applicable threshold. Neither component of the exposure assessment, the thermal threshold, nor the residence time of individual fish has been evaluated. However, because of the magnitude of the increase from this source is not significant, and the residence time in the heated plume would be minimal there does not appear to be a significant increase in the number of degree-days exposure due to the proposed source.

Several studies demonstrate that fish can and do avoid acute thermal plumes when exposed to a thermal gradient. However, other studies show that competing demands, such as feeding behavior, may modify

avoidance behavior related to a thermal plume. Fish that do not avoid a heated plume may then suffer some influence from elevated temperatures. It is unlikely that migrating fish would encounter all the point source plumes. The potential impact of a thermal plume would be minimized by assuring the mixing zone avoided areas that juvenile fish would seek out for feeding, or select for preferred habitat or thermal refugia.

Both the appropriate temperatures and the location and volume in which fish occur need to be protected (Coutant 1987). Therefore a thermal plume should not overlap with unique habitat such as feeding areas or other important refugia. Bamber (1995) observed that thermal discharge would tend to favor eurythermal species over the cold water stenothermal species. Such effects are likely localized where mixing occurs.

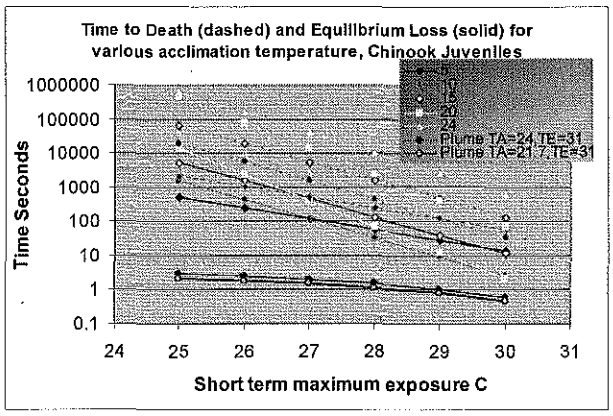
The discharge will include both temperature and chlorine. Cherry et. al. (1982) observed that fish, including rainbow trout and coho salmon, avoid lethal concentrations of chlorine. Fish seeking preferred temperatures associated with heated water altered chlorine avoidance behavior. The attraction to warm temperature resulted in some avoidance concentrations approaching and slightly exceeding toxic concentrations. Giattina et. al. (1981) observed that in field surveys no reported fish kills were observed, suggesting that fish tend to avoid lethal levels of chlorine.

Medrim et. al. (1974) studied several fish species and observed that acclimation temperature was the dominant factor influencing fish avoidance of chlorine. Sprauge and Drury (1969) observed a physiological trap where salmonids did not avoid a lethal concentration of chlorine if the chlorine level was raised beyond the initial avoidance levels. A similar trap was not observed by Meldrim et al (1974) studying white perch.

Mixing Zone Rules:

The proposed discharge meets all mixing zone requirements defined under OAR 340-041-0205(4). Placement and design of the mixing zone minimize risk to sensitive salmonids and other beneficial uses. The mixing zone is as small as feasible and meets all federal guidance and state rules. The discharge will result in less than 0.25°F at the edge of the mixing zone.

Although no specific observations were presented describing salmon use or presence in the proposed outfall location the available literature provides a basis for inference on the relative risk associated with outfall placement and design. The potential risk of juvenile and adult fish encountering and entering the plume appears less for a high rate diffuser in deeper water placed off shore as opposed to a lower velocity outfall located in near shore habitats. Adult migration is more likely to occur nearer to shore in water shallower than the proposed mixing zone and would not appear to be jeopardized by the placement of the thermal plume. It appears that an outfall plume place off shore is less likely to impact feeding behavior of juvenile salmonids that a near shore outfall. Similarly, a mixing zone distributed near the bottom in mid channel is less likely to influence feeding behavior than a plume that rises to the surface. The placement and design of the outfall also reduces the relative risk of adult and juvenile fish coming in contact with the plume. The placement would be consistent with the NMFS expectations for minimizing risk of predation on juvenile salmonids.



The attached graph illustrates the relative risk of impairment should a fish come in contact with the plume. The upper family of curves illustrates the dose response for impairment for different acclimation temperatures. The lower two curves illustrate the time of exposure in the effluent plume as it mixes calculated for an organism in the effluent plume. The exposure appears to be less than the dose response curves with the 2° margin of safety proposed by Coutant. There does not appear a significant risk due to direct, indirect, or sub lethal impairment for juveniles or adults. This assessment would be conservative because a juvenile fish could not enter the zone of flow establishment without significant effort. The exposure is likely less than implied. Review of the available literature suggests the discharge will

not have a significant effect on beneficial uses during the period that site potential temperatures exceed numeric criteria.

New Source Requirements OAR 340-041-0026(3)(a)(F)(i)-(ii):

The Department interprets the language for section (F)(i)-(ii) to allow up to a 1 degree increase as opposed to requiring each discharge to be evaluated as if it caused a 1 degree increase. Each source should be evaluated based on the potential impact created by its discharge and cumulatively with other discharges approved under this rule.

The proposed new discharge is a negligible addition to the temperature of the Columbia River. Existing point source discharges to the Columbia do not approach a 1° F increase. New sources requests are rare and unlikely to approach current loads and cause a 1° F increase. From the mixing zone analysis, the Department finds the proposed discharge would not cause a measurable increase (0.25°F) outside the mixing zone. There does not appear to be a significant risk to fish encountering the thermal plume. Therefore, for the period of the year that the river may exceed criteria under site potential conditions, approximately late June through mid-September, the Department may permit this source under OAR 340-041-0026(3)(a)(F)(i)-(ii).

The current analysis suggest that 68 °F is exceeded at times due to anthropogenic actions. The EPA has drafted a TMDL. However the TMDL is not complete. Although the current TMDL draft focus is on the influence of the dams allocations have been assigned to point sources. The proposed discharge is included in the draft allocations and can therefore reasonably be expected to fit within the TMDL strategy for new or increased temperature loads.

Exceptions to New Source Requireemnts OAR 340-041-0026(3)(a)(G)(i)-(ii):

Since positive findings can be made under OAR 340-041-0026(3)(a)(F), it is not necessary to evaluate section G. However, positive findings could be made under section G based on the same analysis used to determine appropriate sizing and placement of the mixing zone. The appropriate finding of use protection is important since the analyses suggest the numeric criteria of 68° F cannot be achieve. When ambient temperature exceeds threshold used to establish use protection, any increase in temperature has the potential to impair beneficial uses. Providing the maximum allowable 1° F increase would impair the ability to meet the numeric criteria and likely create a significant impairment to beneficial uses.

The discharge will not have a 1° F increase outside the mixing and will not have a significant impact to beneficial use. The increase in temperature is not measurable outside of the mixing zone. The outfall design and location minimize potential risk to salmonids. The potential impact to beneficial use is not quantifiable. A cumulative increase from new sources approaching 1° F is unlikely in the Columbia River.

Policies Applicable to all basins OAR 340-041-0120(11)

The literature review does not provide substantive insight for these policies. However, the temperature management plan will be for the specific source. The relative cumulative contribution of the proposed source to the energy budget of the Columibia is negligible. The temperature management plan would therefore focus on the source contribution, rather than the cumulative effects, and the potential impacts in the mixing zone.

Specific Basin Standard - OAR 340-041-0205(2)(b):

The above analysis shows that the placement of the outfall does not occur in a sensitive cold water refugia. As illustrated above, should an endangered salmonid come in contact with the plume there is negligible risk of lethal heat shock under any acclimation temperature. Therefore the proposed discharge should not impair the biological integrity of the threatened and endangered populations. The temperature management plan for the source can require mitigation that would mitigate any theoretical increase in temperature.

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Attachment F, Addendum
EQC, January 30-31, 2003
Agenda Item G

Fish Literature Review Addendum 1:

Additional review regarding changes to outfall design and potential impact to sturgeon

Mixing Zone and Sturgeon use protection.

As part of the permit application review and response to public comments the Department communicated with the Oregon Department of Fish and Wildlife (ODFW) and the National Marine Fisheries Services (NMFS). The ODFW written comment provided metrics similar to those initially used to design and place the outfall. The ODFW recommended that the diffuser should be placed far enough out in the river to avoid blocking upriver migration of adults which tend to follow the river banks, the diffuser should be located where the water depth is more than 30 feet to avoid affecting salmon smolts out migration since these migrants occur mostly in the top 30 feet, the diffuser should be in an area of free flow rather than backwater eddies, the diffuser should not be located near spawning beds. The ODFW noted that they have limited amount of information on sturgeon and the effect of temperature on their health. The ODFW believes that the deep holes are in the Columbia are used slightly more frequently in the Columbia by juvenile sturgeon especially in the summer months (ODFW personal communication). ODFW recommends that the Department adopt a strategy that would minimize the impact by avoiding uniquely deep holes in the Columbia River.

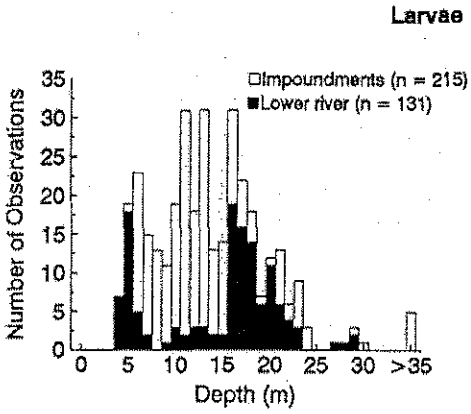
The placement and design of the outfall can influence the risk of impairment to aquatic life. Comments questioned whether the placement and design of the outfall in a deep hole in the Columbia adequately considered the potential impact to sturgeon which may use the deep hole. Also, the addition of the heat exchanger which would produce cooler effluent would change the mixing characteristics of the effluent with ambient water near the outfall. The Department believed a review of the outfall and mixing zone was appropriate.

From discussions with NMFS the perceptions of that agency would be similar to ODFW (NMFS personnel communication). They want to assure that the salmonids are protected and that the potential impact to sturgeon is also minimized. The NMFS notes that they, like ODFW, have less specific information on sturgeon and although they did not provide written comments were particularly helpful providing published literature citations related to sturgeon.

The white sturgeon population residing in the lower Columbia River downstream from Bonneville Dam is the most productive in the species range (Devore, James, and Beamesderfer 1999). Abundance and growth of white sturgeon are greatest in the lower Columbia River (Figure). These fish use estuarine and marine habitats as well as riverine habitats allowing them to feed on anadromous prey fishes. The lower Columbia River population may be the only one in this basin that is abundant and stable (Rieman and Beamesderfer 1990). McCabe and Tracy (1994) note that the population of white sturgeon in the lower Columbia River is one of the largest in the word.

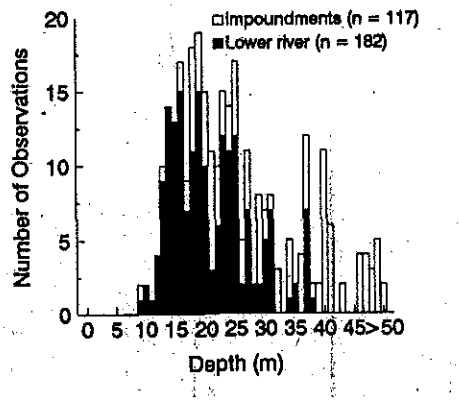
A few studies provide insight to habitat use of the early life stages of the Sturgeon. White sturgeon were observed to spawn upstream of river kilometer 222 at temperatures ranging from 10 to 19°C. (McCabe and Tracy (1994). This study reported larvae were collected at depths ranging from 4 to 29 m. The young of the year white sturgeon were more abundant in deeper areas of the lower Columbia River, at least during the daylight. Mean minimum depths during capture efforts were > 12.5 m and mean maximum depths were > 15.8 m. The study used only methods that sampled along or very near the bottom; therefore, no data were collected regarding vertical distribution. On the basis of their sampling McCabe and Tracy (1994) suggest that most young of the year are primarily using the river reach from RKM 45 (RM 28) through RKM 166 (RM 106). Food resources for juvenile sturgeon in many of the deeper areas (> 12 m) of the lower Columbia are probably not very abundant. McCabe and Tracy note that, however, a deep hole at river kilometer 120 had large numbers of young of the year sturgeon. During a 20-hour survey McCabe and Tracy observed that most young of the year were caught during hours of darkness at depths of that ranged from 11 – 15 m

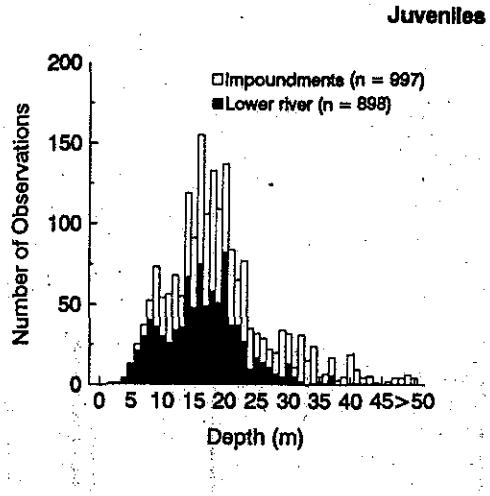
In the mid Columbia River diel movements of white sturgeon were observed (Dean 1981). Diel movements are probably related to light. Movement to cool, deep areas occurred prior to sunrise and movement to warn shallow areas peaked after sunset. Movement to back eddy and slough areas of in the Mid Columbia, where benthic organisms and smaller fish are more abundant, may be related to feeding (Dean 1981). During the summer 1977 Dean (1981) observed that sturgeon temperatures were similar or slightly cooler between 0200-1000 hours as compared to average river temperatures. The slightly cooler temperatures suggested presence in deeper and possibly spring feed areas. During the periods 1400 – 2200 sturgeon temperature was higher than average water temperature indicating presence in warmer shallow slough areas (Dean 1981). McCabe and Tracy (1994) observed that other studies in the lower Columbia suggest young of the year sturgeon do not use shallow littoral areas as indicated by beach seining.



Parsley and Beckman (1994) note that the Columbia River downstream from Bonneville Dam provides extensive areas that are physically suitable for rearing the young of the year and juvenile white sturgeon. This assessment is based in part on habitat simulations that relied on observed distribution presented by Parsley et al 1993 for larvae, Juveniles and Young of the year (illustrated). In this study larval sturgeon were collected at depths of 4-58 m, at mean water velocities of 0.4-2.7 m/s over substrates of sand, gravel, cobble, boulder, and bedrock.

Young of the year were captured from deep (9-57 m) low velocity areas where substrate was generally sand (mud and silt, gravel, cobble, and hard clay) particularly in the lower river. The habitat in which young of the year sturgeon were captured indicates a tolerance, but not necessarily a preference, for a wide range of environmental conditions (Parsley et al 1993). Young for the

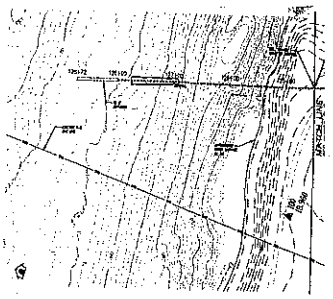




year and juvenile sturgeon were generally captured within the thalweg, and sampling adjacent to the thalweg in shallower water rarely collected white sturgeon. Parsley et al. (1993) notes that Haynes and Gray (1981) suggest that large juvenile and adult sturgeon make feeding forays into shallow during hours of darkness. Most of Parsley et al. (1993) observations occurred during the day, but those at night showed no movement of the young of the year or juvenile fish into shallow areas.

Graphs show distribution with depth, not density or a measure of habitat selection. Based in part observation described above Parsly and Beckman developed habitat suitability curves for young of the year and juvenile sturgeon. These curves indicate useable habitat greater than 10-15 meters at mean water column velocities below 2 m/s. The juvenile sturgeon appear to frequent habitat greater than 5-10 meters and are often observed at depths > 15M. Juvenile and young of the year sturgeon would be expected to use the thalweg in pools of 70 feet 21m) as occur near the proposed discharge.

The Department worked with their consultants Liberte Environmental to evaluate the mixing zone size, placement and dimensions. Additional issues were addressed related to structural integrity of the design, and sensitivity to the changing effluent and ambient conditions. The effluent temperature may vary from near ambient to 12 degrees above ambient. The difference in temperature can influence buoyancy and plume dynamics. The discharge will also occur in a tidal area with flow reversal where velocities vary significantly. The changing hydraulics will greatly influence plume dynamics. The outfall design needs to be robust enough to provide optimum mixing under a wide variety of conditions. Therefore, the final mixing zone design was developed through a series of sensitivity analysis reflecting alternative designs, alternative discharge port size and number, alternative diffuser lengths, variable effluent quality, and hydraulic conditions.



The environmental mapping of conditions was needed only minor modification to respond to the ODFW's proposed metrics and the available information on sturgeon distribution. The primary constraints remained the same: to achieve dilution needed under any tidal flow condition; to achieve a no measurable increase in temperature by the time the plume reached the upper 30 feet where migrating smolts usually are; to keep the plume away from the shore where adults migrate; and to keep the plume off of the bottom. The scale of the mixing zone continued to be assessed using the state standards and USEPA guidance. The acute mixing zone scale continued to be estimated according to the more restrictive of USEPA guidance for 50*length scale in any direction.

The diffuser was pulled away from the thalweg to the edge of the channel (55 – 65 feet) to minimize potential risk to juvenile and young of the year sturgeon. The design was modified to incorporate an alternating diffuser with the ports angled at 45 degrees. The port angle assures the plume stays off the bottom while also assuring the effluent is not directed up toward the surface to minimize the potential for the warm water to reach the primary depth for juvenile salmon migration. The alternating diffuse helps spread the initial mixing while allowing much of the effluent to flow with, and optimally mix with the direction of ambient flow as the tides reverse. The diffuser length is 22 meters. The number of ports was allowed to vary. Port distance varied with number of ports. Port velocities were maintained at 3 m/s for the design flow. Sensitivity analysis suggested the dilution conditions did not vary significantly with the optimum range for the number of ports between 8 and 15. Port sizes were reduced from the original proposed 30 ports to achieve greater structural integrity of the risers. Additionally, flapper valves were added.

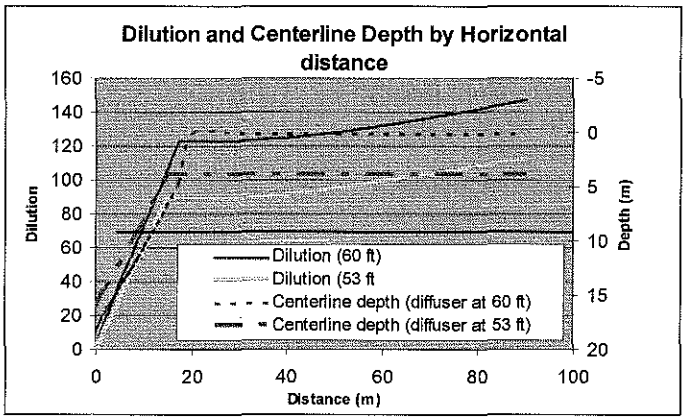
The sensitivity to temperature was analyzed by varying both ambient and effluent design temperature. The dilution needed to achieve no measurable increase is determined by the difference in effluent and ambient temperature. For example, at an ambient temperature of 68°F and effluent temperature of 86.9°F the dilution required to reach no measurable (0.25°F) increase is 86.4. The dilution that is required to result in no measurable increase in temperature will be greatly reduced if the anticipated effectiveness of the heat exchanger is achieved. The dilution is required at the edge of the MZ. By design the MZ should not extend up into the upper 30 feet of the water column.

Dilution Needed	Effluent Temperature	
Ambient Temp	**86.9**	77
68	**86.4**	36
64	102	52
62	110	60

Several alternative depths were evaluated. The Departments consultant evaluated a test design based on 8 4 inch ports the dilution needed could be achieved with a reasonable mixing zone with the port depths at near 53 feet. The 4 inch port size results in an EPA design recommended ZID of 4.5 meters. The applicants proposed using 3 inch ports which would result in a shorter recommended ZID of 3.3 meters. Sensitivity analysis suggested dilution at the ZID was similar for the two scenarios under the design case of critical low ambient velocity of 0.05 m/s. (Dilution = 22). The Department applied a conservative estimate of dilution (19) from the sensitivity analysis o develop water quality based effluent limits. The

conservative application is appropriate due to the lack of representative site specific field data and that these limits can readily be achieved through dechlorination and volatilization. There is no reasonable potential to exceed 25C at the ZID of 3.3 meters. To round off to a reasonable order of precession the ZID is 4 meters.

The depth of the outfall may influence the potential that temperature may exceed a measurable increase at the environmental mapping constraint of a 30 foot depth to assure no measurable where most smolts migrated as recommended by ODFW. Under the likely scenarios of a heat exchanger this is not likely a significant issue, the require dilution will be readily achieved under any ambient temperature. However, part of the objective in sizing and placing a mixing zone is to minimize risk under any scenario, which could include the treatment system not working correctly. Since the effectiveness of the heat exchanges is not known the mixing zone must be placed to assure adequate dilution under the allowed permit conditions. Depth alternatives varied from port depths near 53 feet to 60 feet.

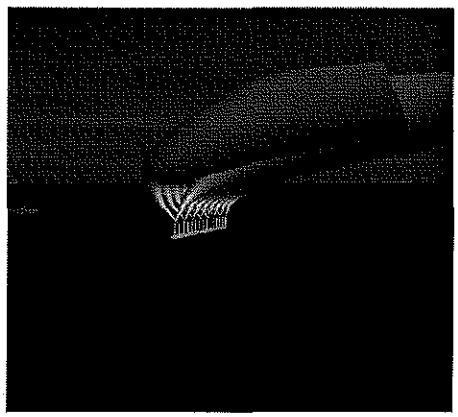


Output from two of the sensitivity simulations is presented. The analysis focused on worst case conditions of warm effluent discharging at criteria during critical low velocities. The shallower depth would meet the requirement for no measurable within a reasonable mixing zone. As the outfall placement becomes shallower the potential for the centerline of the plume to extent up into the shallow zone increases. At port depths near 60 feet the plume would provide adequate dilution under any scenario prior to reaching the < 30 foot depth. Therefore the diffuse should be designed to minimize riser length, which has the added advantage of structural integrity, and maintain port depths between near 55 – 60 feet.

The mixing zone size is set also by the off design case of high velocity, which usually result in greater dilution and the plume not rising nearly as fast. Risers are used in part, as is the requirement to maintain a 45 degree angle, to assure the plume stays off of the bottom.

The Department reviewed the information provided and verified the results using the Plumes series of models supported by USEPA. The plumes models is not designed to simulate alternating staged diffuser and likely provides conservative estimates of dilution. Sensitivity analysis was run using Plumes to estimate the dilution that may occur through alternating diffusers. The number of ports was decreased by 2 to simulate the enhanced effects of Ports oriented in opposite directions. Dilution was also calculated to for port oriented opposite the stream flow since with tidal reversal this will occur to all ports at times and by design to ½ the ports in an alternating diffuser. The actual dilution using a staged diffuses is likely above the lowest estimates, and below the upper range. The model (Visjet 2) was used to simulate the alternating diffuser. This model has the advantage of explicitly simulating alternating diffuser design. The Department, however, does not have substantial experience in its application nor is it supported by USEPA. USEPA experts were questioned and also had limited experience but based on their understanding and

Condition		Dilution	
Port Space	Angle	ZID	30 ft
1.57	45	19.2	82.4
3.14	45	19.8	146
3.14	90	19.8	194.3



knowledge with model and its developers believed it likely to be a reliable tool. The model can be used to illustrate the perceived plumes from an alternating diffuser. Estimated dilution near the ZID was 20 and at 10 from the surface > 170, and near 30ft was near 200. The result of qualitatively similar to The simulations suggest that to assure 110 dilution at 30 feet under the design case the diffuser ports needed to be maintained below 53 feet (16 m) of the surface. The ports were presumed to be a 0 and 180 of the flow direction, greater dilution may occur with discharge directed out into the river.

The Departments consultant suggested an increased mixing zone associated with the larger 4 inch port size to a distance of 45 meters. The analytical results suggest that adequate dilution for meet the no measurable increase will be met under the off design case and may be constrained by the design case. Using the Plumes model, at the design case with port depths of 53 feet the plume surfaces and further dilution to exceed 100 is dependent upon estimated of farfeild dispersion not rigorously simulated. Even so, a 45 meter mixing zone is not unreasonable for the Columbia River. At design depths of near 60 feet, or as simulated as a alternating staged diffuser, the greater mixing occurs prior to plume reaching the surface and a longer mixing zone is not needed. The originally proposed mixing zone of 28 meters would allow for adequate dilution.

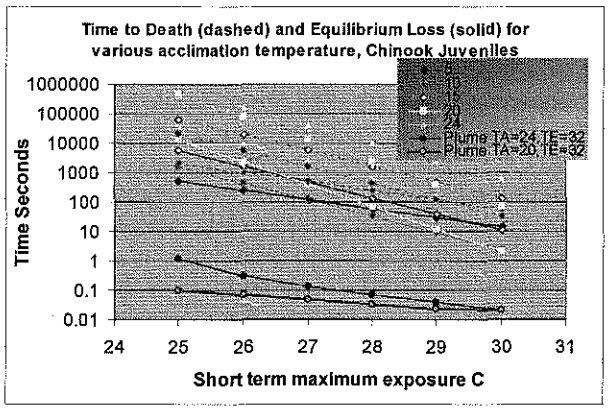
It does not appear possible to place the diffuser in a shallow depth to avoid potential juvenile sturgeon habitat and also assure that the plume would not have the potential to cause a measurable increase in temperature 30 feet from the surface. Sturgeon juveniles were frequently observed at depths of greater than 15 meters, to use and feed at depths of 10 -15 meters. Sturgeon, especially older year classes, may also move diurnally, using the shallower water to feed at night. Based on the limited knowledge of sturgeon distribution any placement of the diffuser that would meet the primary recommendations of minimizing risk to salmonids could overlap with potential sturgeon habitat.

Much of the monitoring for juvenile and younger sturgeon used benthic dredges and limited data exists on sturgeon distribution in the water column. Sturgeons are bottom feeders and the general presumption appears that they are bottom oriented. In part for that reason the riser are required and the plume directed upwards to assure that the plume does not attach to the bottom. The riser length is in part a balance between elevating the plume above the bottom and structural integrity. Port sizes of 3 – 4 inches provide much greater structural integrity than the originally designed much smaller ports with no real loss of dilution achieved.

From the available information it does appear that there is a preference of the juvenile sturgeon for the river thalweg. Although keeping the plume off the bottom is intended to assure protection of bottom oriented organisms it appears possible to modify the diffuser placement so that it is above the river thalweg and also achieve the substantial dilution needed to assure a no measurable increase in temperature prior to the plume reaching 30 feet from the surface. From the available information it appears that keeping the diffuser off the thalweg provides a greater opportunity to protect juvenile sturgeon than any specific depth that would be available. This placement may therefore provide some added protection to the juvenile sturgeon which may frequent the relatively greater depth of the large pools in the Columbia River. The outfall will still be required through risers and port orientation of >=45° to direct the plume off of the bottom to assure that benthic organisms are protected.

Following the USEPA guidance the size of the zone of initial dilution may be a function of the outfall dimensions. USEPA recommends using the minimum of several metrics, including $50 * \sqrt[2]{Port - area}$. This criterion should assure at least 10:1 dilution. To maintain the 3 m/s port velocity using 15 ports the port size would be slightly greater than three inches and the suggested MZ size based on length scale 3.5 meters. The EPA provides an alternative method for establishing the zone of initial dilution. The alternative, drift organism method, determines whether a mixing zone is tolerable for a drift organism or for a free swimming organism that may enter the mixing zone, the intent of the method is to prevent the actual time of exposure from exceeding the exposure time required to elicit an effect. The USEPA recommends the exposure effect be calculated as: $\sum \left[\frac{T_n}{ET_x atC_n} \right] \leq 1$ where T_n is the exposure time of an organism in

an isopleth n, and ET_x is the exposure time required to produce an effect at the concentration observed at n. The exposure was calculated conservatively for an organism that would follow the centerline of the plume. A drifting organism or weakly swimming organism such as a juvenile salmonid could not physically enter the zone of flow establishment and would not be exposed to the highest concentrations calculated by this method. Isopleths were derived suing model time steps. The drift organism exposure was calculated for both chlorine and excess temperature. Chlorine exposure was derived by modifying the intermittent exposure criteria developed by British Columbia to result in a 1 hour concentration of 19 ug/l consistent with the state criteria. This conservative reduction of the dose-response assures that any ZID developed using the drift organism would also achieve the no acute criteria at the edge of the ZID to protect for non motile organism. The chlorine limit of 360 ug/l was used to derive the exposure dose.



Excess temperature effect was evaluate using the dose response information developed using Coutants proposed 2 degree margin of safety to represent ecological death through loss of equilibrium. The dose response for temperature was dependent upon acclimation temperature. To illustrate the exposure compared to the dose response curves the weighted average temperature for an exposure period was compared to the empirical dose-response curves developed for equilibrium loss.

Dilution and time of exposure along the centerline of a plume was calculated using the USEPA Plumes model for a 22 meter long diffuser with 15 three inch port placed with the ports 57 feet below the surface. The critical case condition of low velocity 0.05 m/s and maximum permitted discharge was used to derive dilution at an effluent temperature of 32°C. The dose response becomes potential more significant as effluent temperature approaches 33°C. The proposed mixing zone meets the USEPA guidance for drift organisms.

	Drift Organism Ratio
Chlorine (380 ug/l)	1%
Temperature	
Ambient 15 °C	> 1%
Ambient 20 °C	> 5%
Ambient 24°C	> 1%

	Mixing Zone Recommendations		
	DEA	LEA	DEQ
Ports	15	8	8-15
ZID	3.3	4.5	3.5
MZ	28	45	30
ZID based on length scale and drifting organisms MZ as small as feasible			

The recommended size of the ZID and mixing zone are dependent in part on the size of the discharge ports, which is dependent upon the number of ports. To maintain port exist velocities of > $3^m/_s$ with 15 ports requires > 3 inch ports. The ZID based on length scale would be > 3.4 m which was rounded to nearest ½ meter of 3.5 meter. There is no explicit EPA guidance on the size of the mixing zone. The MZ could be approximated by applying the inverse of one set of USEPA guidance resulting in a MZ = 10*ZID. However, as long as the diffuser is placed at adequate depth the mixing zone can be reached with substantial dilution in a shorter distance. To remain as small as feasible the only change to MZ size was to round the scale to the nearest 10 m, for a 30 m mixing zone.

Therefore the Department will require a mixing zone with the dimension of

ZID No more than 3.5 meter (in any flow direction from outfall)
MZ 30 meter (in any flow direction from outfall)

To achieve the dilution required and the environmental constraints with this mixing zone dimension the Department recommends an alternating staged diffuser with ports at 45 degrees at port depths targeting >55 – <65 feet. Diffuser will be placed on the river margin off the river thalweg.

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State of Oregon
Department of Environmental Quality Memorandum

DATE: January 9, 2003

TO: Environmental Quality Commission

FROM: Stephanie Hallock, Director S. Hallock

SUBJECT: Agenda Item H, Rule Adoption: Underground Storage Tank Compliance Rule Revisions
January 31, 2003 EQC Meeting

Department Recommendation

The Department recommends that the Environmental Quality Commission (EQC, Commission) adopt underground storage tank (UST) rule revisions as summarized in Attachment A.1 and presented in Attachment A. 2 (a) through (e).

Need for Rulemaking

Almost 70 percent of facilities inspected by the Department do not meet UST release detection requirements. To increase compliance and protect human health and the environment, the 2001 Legislature amended laws (ORS 466.706 to 466.835, 466.994 and 466.995) governing USTs that have been in place in Oregon since 1988. The amendments require the Commission to adopt rules to implement a mandatory training program for all UST System Operators and a pilot program to expedite enforcement of UST compliance violations. These proposed rules carry out the legislative directive. They also provide UST owners and operators a better understanding of UST system operation and maintenance by reformatting and clarifying rule language.

Effect of Rule

The operator training section of the proposed rule is designed to educate the operator on specific compliance requirements of their UST system. This will lead to a thorough understanding of how the UST system is to be maintained and operated in order to prevent or detect leaks. The new expedited enforcement process will result in tank owners being immediately informed of problems and actions necessary to correct violations while the inspector is present. This will reinforce the effect of operator training in preventing leaks or detecting them early. Hence, the new enforcement process will reduce the time spent by staff on traditional enforcement activities and allow more time for inspections. Legislation also directs the Department to apply for State Program Approval (SPA) from the Environmental Protection Agency. The operator training and expedited enforcement requirements will improve the likelihood of achieving SPA.

In addition, federal UST compliance requirements (40 CFR Part 280, Subparts A through G) previously adopted by reference, are proposed to be incorporated into rule. These proposed changes are intended to make it easier for tank owners to understand and comply with all state and federal

UST requirements. A new rule division (Division 151) was written for state financial responsibility requirements and includes federal financial responsibility requirements (40 CFR Part 280, Subpart H) by reference. Attachment E identifies how the state UST rules relate to federal requirements and in particular, ways the state rules would be more stringent than federal requirements.

Commission Authority

The Commission has authority to take this action under ORS 466.706 through 466.835, 466.994 and 466.995.

Stakeholder Involvement

Starting in October 2001 and continuing through July 2002, an UST Advisory Committee (Committee), comprised of representatives from industry and government, met and assisted the Department in the development of these proposed rules. In addition, three subcommittees focused on the technical, enforcement and training issues in the proposed rule and reported to the full Committee. The Committee provided input on several policy issues and recommended changes to rule language after discussion of each rule section. A list of Committee members is provided as Attachment B. Committee members, industry representatives and stakeholders strongly support the proposed UST rule revisions.

Although a strong effort was made to have small business owners participate on the Committee, the Department was unable to get optimum participation. This was due mostly to the needed time commitment. However, the interests of small business owners were represented by the Oregon Gasoline Dealers Association (OGDA) Executive Director who was an active member of the Committee. The membership of the OGDA is primarily small business owners in both rural and urban locations.

Public Comment

A public comment period was held from September 1, 2002 through October 14, 2002 and included 14 public hearings. So many hearings were possible because of the unique process the Department used. A 30-minute video overview of the proposed rule was developed and presented prior to the start of each hearing. The video was paused at predetermined times to allow Department staff to answer questions. At hearings held outside of Portland, a staff member was linked to the hearing by speakerphone to answer questions. This allowed the Department to conduct additional public hearings through more efficient use of limited resources. The Department received favorable comments on this process from the meeting attendees. Meeting locations and the results of public input are provided in Attachment C.

Key Issues

Key issues addressed in these proposed rules include:

- **Training of UST System Operators**. Since almost 70% of the facilities inspected by the Department do not meet release detection

requirements, operator training is considered necessary to ensure that UST systems are maintained and operated correctly to prevent or detect leaks quickly. Industry representatives support this training requirement and are committed to work with the Department on implementation of the training requirements. A hardship provision is included in the proposed rule so some owners of only one retail facility can be excused from the formal training requirement. This training requirement is not required by federal regulations.

- **Expedited Enforcement**. Based on legislative changes, the Department is proposing a pilot expedited enforcement process through the use of field "tickets" instead of traditional civil penalties. The process will be offered throughout the state to those who qualify. This is considered important by industry representatives and the Department in order to reduce time spent on enforcement activities and increase the number of inspections by staff. Although many violations noted in the current enforcement process typically do not carry a penalty if corrected, penalty amounts in the pilot program are much lower than current traditional civil penalties. The pilot program will be evaluated and a recommendation for continuing or expanding the program will be presented to the Commission in 2004. This expedited enforcement pilot is not required by federal requirements.

- **Financial Responsibility.** Financial Responsibility (FR) may be an affordability issue with some small business owners even though this is not a new requirement. Federal rules have required FR for this group of tank owners since 1993, and Oregon has required it since 1998.

Next Steps

If adopted at the January 31, 2003 Commission meeting, the rules will become effective after filing with the Secretary of State's Office. Implementation of the pilot enforcement and operator training programs will take place as soon as possible after the rules become effective. The proposed rule requires compliance with training requirements by March 2004.

The Department will notify all known tank owners, permittees of UST facilities, property owners where USTs are known to be located, legislative officials, licensed UST Service Providers and other interested parties of the proposed rules if adopted by the Commission.

In February 2003, the Department will provide "reader friendly" guidance documents for tank owners to explain the operator training requirements, new enforcement process and general rule requirements. The Department's regional inspection staff currently uses a field notification process for some notices of noncompliance. Even though this process is similar to the proposed pilot field ticket process, additional training will be conducted for regional inspection staff.

Attachments

A. Proposed Rule Revisions
   1. Summary of Proposed Rule Revisions
   2. Redlined Versions of Proposed Rule Revisions
      (a) Division 150
      (b) Division 151
      (c) Division 160
      (d) Division 12
      (e) Division 122

B. Advisory Committee Membership List
C. Summary of Public Comments and Agency Responses
D. Presiding Officer's Report on Public Hearings
E. Relationship to Federal Requirements
F. Statement of Need and Fiscal and Economic Impact
G. Land Use Evaluation Statement

Approved:

Section: _____

Division: _____

Report Prepared By: Mitch Scheel,

Phone: 503-229-6704

Attachment A.1

Summary of Proposed Rule Revisions

The proposed rule affects existing and future owners of regulated underground storage tanks (USTs) and those responsible for their daily operation. The Department regulates approximately 1,150 permittees at 2,064 facilities with 6,095 tanks.

The proposed rule complies with the directive of the 2001 Legislature by adding mandatory training for operators and providing an expedited enforcement process. The proposed rule also reformats and clarifies rule language, thereby making it easier for the regulated community to understand and comply with the UST requirements.

1. Administrative Requirements

Definitions and administrative requirements are included in OAR 340-150-0001 through - 0180 (see attachment A.2 (a), pages 1 through 47). The changes made in fees by the 2001 Legislature became effective in July 2001 for all regulated USTs in Oregon. The proposed rules include those fees (see OAR 340-150-110, attachment A-2 (a), page 26 through 27):

- $60 annual per tank fee to $85
- $20 tank fee surcharge for 2002 only
- New $400 fee for each new tank installed
- New $75 fee for permit modifications
- New $35 fee for late payment of annual invoice
- Fees for tanks not previously permitted (capped at $500 per tank)

2. UST System Operator Training

The 2001 Legislature directed the Commission to adopt rules establishing mandatory training requirements for operators of USTs. The proposed rules include requirements and specifications for one-time training of "UST System Operators" (see OAR 340-150-0200, attachment A.2 (a), pages 47 through 49). Training must be completed by March 1, 2004. A hardship provision for some UST System Operators is included in the proposed rule.

3. Expedited Enforcement Process

The 2001 Legislature also directed the Commission to adopt rules and implement a pilot program for the assessment and expedited imposition of noncompliance penalties for specific UST violations (see OAR 340-510-0250, attachment A.2 (a), pages 49-50). Penalty amounts of $75 are specified in rule; all other penalties are $50. Penalties from a single inspection cannot total more than $300. If penalties total more than $300, participation in the expedited enforcement process is not allowed and enforcement would be conducted through the more traditional process.

The pilot program ends December 31, 2005. The expedited process is expected to save time for the Department when enforcement is necessary. The pilot process will be evaluated over the course of its implementation and a recommendation for whether or not to continue the approach will be made to the Commission

4. Classification of UST Violations

Changes necessary to implement the expedited enforcement process require changes to the classification of UST violations (see OAR 340-012-0067, attachment A.2 (d)). Failure to have any financial responsibility mechanism is proposed as a Class I violation (currently a Class II default) which is consistent with similar financial responsibility requirements for other Department programs.

5. UST Compliance Rules

Federal regulations are incorporated into state administrative rules and reorganized for easier reading (see OAR 340-150-0300 through - 0620, attachment A.2 (a), pages 50 through 79). New rule sections have been added to improve and specifically address issues that are allowed by federal rules, but not clearly stated. A list of reference documents is included as Appendices A-L in Division 150. This increases the readability of the proposed rule by listing information in appendices rather than including it in specific rule language.

6. Financial Responsibility Requirements

Federal regulations (40 CFR Part 280, Subpart H) are adopted by reference (see OAR 340-151-0001 through - 0370, attachment A.2 (b)) with some Oregon-specific changes and additions (see OAR 340-151-0015).

7. UST Cleanup Definitions

Minor changes were made to allow for consistent use of definitions with Division 150 (see OAR 340-122-0210, attachment A.2 (e)).

8. UST Service Providers & Supervisors

Minor changes were made to allow for consistent use of terms and definitions in Division 150 (see OAR 340-160-0005 through - 0150, attachment A.2 (c)). Changes were also made to delete out-dated provisions and add new license fees approved by the 2001 Legislature, which became effective July 2001 (see OAR 340-160-0150, attachment A.2 (c), page 8).

- ❖ $300 per year for service providers
- ❖ $150 every two years for supervisors (up to four licenses with same expiration date)

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 150

UNDERGROUND STORAGE TANK RULES

340-150-0001
~~Purpose and Scope~~

~~(1) These rules are promulgated in accordance with and under the authority of ORS 466.706 to 466.835, 466.994 and 466.995.~~

~~(2)~~ The purpose of these rules is:

(a) To provide for the regulation of underground storage tanks (USTs) to protect the public health, safety, welfare and the environment from the potential harmful effects of spills and releases from underground tanks used to store regulated substances; ~~and~~

(b) To ~~establish requirements for the prevention and reporting of releases and for taking corrective action to protect the public and the environment from releases from underground storage tanks.~~prevent releases due to structural failure, system leaks, corrosion, spills and overfills for as long as an UST system is used to store regulated substances;

(c) To promote the proper operation and maintenance of UST systems through training of UST facility personnel and expedited enforcement of violations; and

~~(3~~d) ~~A secondary purpose is t~~To obtain state program approval to manage underground storage tanks in Oregon in lieu of the federal program, as required by ORS 466.720.

~~(4) Scope:~~

~~(a) OAR 340-150-0002 incorporates, by reference, underground storage tank technical and financial responsibility regulations of the federal program, included in **40 CFR 280, Subparts A, B, C, D, E, F, G and H.** Persons must consult these Subparts of **40 CFR 280** to determine applicable underground storage tank requirements. Additionally, persons must consult OAR Chapter 340, Division 122 for the applicable release reporting and corrective action requirements for underground storage tanks containing petroleum;~~

~~(b) OAR 340-150-0003 incorporates new language to be used in lieu of the underground storage tank technical and financial responsibility regulations of the federal program, included in **40 CFR 280, Subparts A, B, C, D, E, F, G and H**;~~

~~(c) OAR 340-150-0010 through 340-150-0166 establishes requirements for underground storage tank general permits, notification requirements for persons who sell underground storage tanks, and persons who deposit or cause to have deposited a regulated substance into an underground storage tank.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

Stat. Auth.: ORS 465.200 - 465.455 & 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 465.205, 465.400, 466.715, 466.720 & 466.746
Hist.: DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 26-1990, f. & cert. ef. 7-6-90; DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0002

Adoption of United States Environmental Protection Agency Underground Storage Tank Regulations

Except as otherwise modified or specified by these rules, the rules and regulations governing the technical standards, corrective action, and financial responsibility requirements for owners and operators of underground storage tanks, prescribed by the United States Environmental Protection Agency in **Title 40 CFR, Part 280**, Subparts A, B, C, D, E, F, G and H, amendments thereto promulgated prior to October 30, 1998 and Oregon rules listed in OAR 340-150-0003 are adopted and prescribed by the Commission to be observed by all persons subject to ORS 466.706 through 466.835, 466.994 and 466.995.

[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]

Stat. Auth.: ORS 465.200 - 465.455 & 466.706 - 466.995
Stats. Implemented: ORS 465.400, 466.720 & 466.746
Hist.: DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 26-1990, f. & cert. ef. 7-6-90;DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 24-1998, f. & cert. ef.11-2-98

340-150-0003

Federal Underground Storage Tank Technical Standards

In addition to the regulations and amendments promulgated prior to October 30, 1998, as described in OAR 340-150-0002, the following rules substituting new language in lieu of **Title 40 CFR Part 280, Subparts A, B, C, D, E, F, G** and H are adopted and prescribed by the Commission to be observed by all persons subject to ORS 466.706 through 466.835, 466.994 and 466.995 with the following exceptions:

(1) The following language is substituted in lieu of **40 CFR 280.10(a):**

(a) The requirements of this Part apply to all owners and operators of an UST system as defined in 280.12 except as otherwise provided in paragraphs (b), (c), and (d) of this section. Any UST system listed in paragraph (c) of this section must meet the requirements of 280.11. Any UST system listed in paragraph (c)(5) of this section must meet the requirements of 280.22.

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(2) The following language is substituted in lieu of **40 CFR 280.11(b):**

(b) Notwithstanding paragraph (a) of this section, an UST system without corrosion protection may be installed at a site that is determined by a corrosion expert and the implementing agency not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Owners and operators must maintain records that demonstrate compliance with the requirements of this paragraph for the remaining life of the tank.

(3) The following language is substituted in lieu of **40 CFR 280.12** "Cathodic protection tester":

"Cathodic protection tester" means a person licensed as an Underground Storage Tank Supervisor of Cathodic Protection System Testing through meeting the requirements of OAR Chapter 340, Division 160.

(4) The following language is substituted in lieu of **40 CFR 280.12** "Implementing agency": **"Implementing agency" means the Oregon Department of Environmental Quality.**

(5) The following language is substituted in lieu of **40 CFR 280.12** "Operator": **"Operator" means permittee as defined in OAR 340-150-0010 (16).**

(6) The definition of "Owner" in OAR340-150-0010(11) is used in lieu of the definition of "Owner" in **40 CFR 280.12.**

(7) The definition of "Release" in OAR340-150-0010(13) is used in lieu of the definition of "Release" in **40 CFR 280.12**.

(8) The following language is substituted in lieu of **40 CFR 280.12** "Residential tank": **"Residential tank" is a tank located on property used primarily for single family dwelling purposes.**

(9) The following language is substituted in lieu of **40 CFR 280.20(a)(2)**:

(2) The tank is constructed of steel and cathodically protected in the following manner:

(i) The tank is coated with a suitable dielectric material;

(ii) A permanent cathodic protection test station is installed.

[NOTE: The test station can be separate or combined with an existing box and must be located near the protected structure and away from an anode. The test station must provide, as a minimum, an electrical connection to the structure and access for placing a reference cell in contact with the soil or backfill. When located below the surface of the ground, the test station design must prevent run off of surface water into the soil.]

(iii) Field-installed cathodic protection systems are designed by a corrosion expert;

(iv) Impressed current systems are designed to allow determination of current operating status as required in § 280.31(c); and

(v) Cathodic protection systems are operated and maintained in accordance with § 280.31 or according to guidelines established by the implementing agency; or

(10) The following language is substituted in lieu of **40 CFR 280.20(a)(4)(i)**:

(i) The tank is installed at a site that is determined by a corrosion expert and the implementing agency not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and

[NOTE: For the purpose of complying with Paragraph 280.20(a)(4)(i), approval by the Department will be given after reviewing the data and information submitted by the corrosion expert and a finding that the corrosion expert's determination is justified.]

(11) The following language is substituted in lieu of **40 CFR 280.20(a)(5)**:

(5) The tank construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than paragraphs (a)(1) through (4) of this section.

[NOTE: For the purpose of complying with Paragraph 280.20(a)(5), approval by the Department will be given after reviewing the data and information submitted by a corrosion expert and a finding that the corrosion expert's determination is justified.]

(12) The following language is substituted in lieu of **40 CFR 280.20(b)(3)(i)**:

(i) The piping is installed at a site that is determined by a corrosion expert and the implementing agency to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and

[NOTE: For the purpose of complying with Paragraph 280.20(b)(3)(i), approval by

~~the Department will be given after reviewing the data and information submitted by the corrosion expert and a finding that the corrosion expert's determination is justified.]~~

~~(13) The following language is substituted in lieu of 40 CFR 280.20(b)(4):~~

~~(4) The piping construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in paragraphs (b)(1) through (3) of this section.~~

~~[NOTE: For the purpose of complying with Paragraph 280.20(b)(4), approval by the Department will be given after reviewing the data and information submitted by a corrosion expert and a finding that the corrosion expert's determination is justified.]~~

~~(14) The following language is substituted in lieu of 40 CFR 280.20(e):~~

~~(e) Certification of installation. All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph (d) of this section by providing a certification of compliance on the UST notification form in accordance with § 280.22.~~

~~(1) The installer has been licensed by the implementing agency; or~~

~~(2) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or~~

~~(3) The owner and operator have complied with another method for ensuring compliance with paragraph (d) of this section that is determined by the implementing agency to be no less protective of human health and the environment.~~

~~(15) The following language is substituted in lieu of 40 CFR 280.22(a):~~

~~(a) Any owner who brings an underground storage tank system into use after May 8, 1986, must, 30 days prior to installing, closing, using, or bringing such tank into use, submit, in the form prescribed in Sections I through VI of Appendix I of this Part (or appropriate state form), a notice of existence of such tank system to the Implementing Agency.~~

~~(16) The following language is substituted in lieu of 40 CFR 280.22(d):~~

~~(d) Notices required to be submitted under paragraph (a) of this section must provide all of the information in Sections I through VI of the prescribed form (or appropriate state form) for each tank for which notice must be given. Notices for tanks installed after December 22, 1988 must, within 30 days after bringing such tank into use, also provide all of the information in Section VII of the prescribed form (or appropriate state form) for each tank for which notice must be given.~~

~~(17) In addition to the provisions of 40 CFR 280.22, the following is added:~~

~~(h) Unless the implementing agency agrees to waive the requirement, at least 3 working days before beginning work to install, replace, decommission or upgrade an UST, owners and operators or the licensed service provider performing the work must notify the implementing agency of the confirmed date and time the work will begin to allow observation of the work by the implementing agency.~~

~~(18) The following language is substituted in lieu of 40 CFR 280.41(a):~~

~~(a) Tanks. Tanks must be monitored at least every 30 days for releases using one of the methods listed in § 280.43(d), (g) and (h) or must be monitored daily for releases using one of the methods listed in § 280.43 (e) and (f) except that:~~

~~(19) The following language is substituted in lieu of 40 CFR 280.41(b)(1)(ii):~~

~~(ii) Have an annual line tightness test conducted in accordance with § 280.44(b) or have daily monitoring conducted in accordance with § 280.44(c).~~

~~(20) In addition to the provisions of 40 CFR 280.43, the following is added:~~

~~(9) The ground water monitoring system is determined by the implementing agency to be designed so that the risk to human health and the environment is not increased.~~

~~[NOTE: For the purpose of complying with the requirements of this section, approval by the implementing agency will be given after reviewing the data and design information submitted by a registered professional engineer or a registered geologist who is especially qualified by education and experience to design release detection systems and a finding that the leak detection system is designed so that the risk to human health and the environment is not increased.]~~

~~(21) The following language is substituted in lieu of 40 CFR 280 Subpart F:~~

~~Subpart F Release Response and Corrective Action for UST Systems Containing Hazardous Substances.~~

~~(22) The following language is in lieu of 40 CFR 280.60:~~

~~§ 280.60 General.~~

~~Owners and operators or responsible persons of hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this subpart except for USTs excluded under § 280.10(b), where UST systems contain petroleum, and UST systems subject to RCRA Subtitle C corrective action requirements under section 3004(u) of the Resource Conservation and Recovery Act, as amended.~~

~~[NOTE: Release Response and Corrective Action for UST Systems Containing Petroleum must meet the requirements of OAR 340-122-0205 through 340-122-0360.]~~

~~(23) The following language is substituted in lieu of 40 CFR 280. 61(a):~~

~~(a) Report the release to the implementing agency (e.g., by telephone or electronic mail);~~

~~(1) All below-ground releases from the UST system in any quantity;~~

~~(2) All above-ground releases to land from the UST system in excess of reportable quantities as defined in OAR Chapter 340, Division 108, if the owner and operator or responsible person is unable to contain or clean up the release within 24 hours; and~~

~~(3) All above-ground releases to the waters of the state.~~

~~(24) The following language is substituted in lieu of 40 CFR 280.62(a) :~~

~~(a) Unless directed to do otherwise by the implementing agency, owners and operators or responsible persons must perform the following abatement measures.~~

~~(25) The following language is substituted in lieu of 40 CFR 280.62(a)(4):~~

~~(4) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator or responsible person must comply with applicable state and local requirements.~~

~~(26) The following language is substituted in lieu of 40 CFR 280.62(b):~~

~~(b) Within 20 days after release confirmation, or within another reasonable period of time determined by the implementing agency, owners and operators or responsible persons must submit a report to the implementing agency summarizing the initial abatement steps taken under paragraph (a) of this section and any resulting information or data.~~

~~(27) In addition to the provisions of 40 CFR 280.62, the following is added:~~

~~(c) The owner and operator, or responsible person must provide any additional information beyond that required under paragraph (b) of this section, as requested by the implementing agency.~~

~~(28) The following language is substituted in lieu of 40 CFR 280.63(a)(4):~~

~~(4) Results of the free product investigations required under § 280.62(a)(6), to be used by owners and operators or responsible persons to determine whether free product must be recovered under § 280.64.~~

~~(29) The following language is substituted in lieu of 40 CFR 280.64 Free Product Removal:~~

~~§ 280.64 Free product removal.~~

~~At sites where investigations under § 280.62(a)(6) indicate the presence of free product, owners and operators or responsible persons must remove free product to the maximum extent practicable as determined by the implementing agency while continuing, as necessary, any actions initiated under §§ 280.61 through 280.63, or preparing for actions required under §§ 280.65 through 280.66. In meeting the requirements of this section, owners and operators or responsible persons must:~~

~~(30) The following language is substituted in lieu of 40 CFR 280.64(d):~~

~~(d) Unless directed to do otherwise by the implementing agency, prepare and submit to the implementing agency, within 45 days after confirming a release, a free product removal report that provides at least the following information:~~

~~(1) The name of the person(s) responsible for implementing the free product removal measures;~~

~~(2) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;~~

~~(3) The type of free product recovery system used;~~

~~(4) Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;~~

~~(5) The type of treatment applied to, and the effluent quality expected from, any discharge;~~

~~(6) The steps that have been or are being taken to obtain necessary permits for any discharge;~~

~~(7) The disposition of the recovered free product; and~~

~~(8) Other matters deemed appropriate by the implementing agency.~~

~~(31) The following language is substituted in lieu of 40 CFR 280.65:~~

~~§ 280.65 Corrective Action.~~

~~(a) Corrective action for cleanup of releases from underground storage tanks containing regulated substances other than petroleum must meet the requirements of OAR 340-122-0010 through 340-122-0110.~~

~~(32) The following language is substituted in lieu of 40 CFR 280.66:~~

~~[NOTE: OAR 340-122-0010 through 340-122-0110 contains equivalent requirements.]~~

~~(33) The following language is substituted in lieu of 40 CFR 280.67:~~

~~[NOTE: OAR 340-122-010 through 340-122-0110 contains equivalent requirements.]~~

~~(34) The following language is substituted in lieu of 40 CFR 280.71(a):~~

~~(a) At least 30 days before beginning either permanent closure or a change-in-service~~

under paragraphs (b) and (c) of this section, or within another reasonable time period determined by the implementing agency, owners and operators must notify the implementing agency, on a form provided by the implementing agency, of their intent to permanently close or make the change-in-service, UNLESS such action is in response to corrective action. Unless the implementing agency agrees to waive the requirement, at least 3 working days before beginning this permanent closure, owners and operators or the licensed service provider performing the work must notify the implementing agency of the confirmed date and time the closure will begin to allow observation of the closure by the implementing agency. The required assessment of the excavation zone under § 280.72 must be performed after notifying the implementing agency but before completion of the permanent closure or a change-in-service.

(35) The following language is substituted in lieu of 40 CFR 280.71(b):

(b) To permanently close a tank, owners and operators must empty and clean it by removing all liquids and accumulated sludges, and dispose of all liquids and accumulated sludges by recycling or disposal. The disposal method must be approved by the implementing agency prior to disposal. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material. Tanks removed from the ground must be disposed of in a manner approved by the implementing agency. The owner and operator must document the name of the disposal firm, the disposal method and disposal location for all liquids, sludges and UST system components including tanks, piping and equipment. The owner and operator or licensed service provider must provide a completed decommissioning checklist and change-in-service report to the implementing agency within 30 days after tank closure.

[NOTE: Liquids, sludges and UST system components may require management as a hazardous waste if contaminated with hazardous materials. Contact the implementing agency prior to disposal of these items to insure these wastes are correctly managed.]

(36) The following language is substituted in lieu of 40 CFR 280.71(c):

(c) Continued use of an UST system to store a non-regulated substance is considered a change-in-service. Before a change-in-service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with § 280.72.

(37) In addition to the provisions of 40 CFR 280.71, the following is added:

(d) The following cleaning and closure procedures shall be used to comply with this section unless the implementing agency has approved alternate procedures and determined these alternate procedures are designed to be no less protective of human health, human safety and the environment:

(1) American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks";

(2) American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks";

(3) American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this section; and

(4) The National Institute for Occupational Safety and Health "Criteria for a Recommended Standard . . . Working in Confined Space" may be used as guidance for

conducting safe closure procedures at some hazardous substance tanks.

(38) In addition to the provisions of 40 CFR 280.72, the following is added:

(c) The owner and operator must notify the implementing agency and meet the requirement of Subparts E and F if contaminated soil, contaminated ground water, or free product as a liquid or vapor is discovered during the measurement for the presence of a release.

(39) The following language is substituted in lieu of 40 CFR 280.72(a):

(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release. For USTs containing petroleum, the owner and operator must measure for the presence of a release by following the sampling and analytical procedures specified in OAR 340-122-0205 through 340-122-0360. A minimum of two samples must be taken below the bottom of the tank. Samples must be taken below any piping where there is evidence of contamination. A petroleum release is considered to have occurred if the contaminant levels are found to exceed the confirmed release levels specified in OAR 340-122-0205 through 340-122-0360. For USTs containing regulated substances other than petroleum and for USTs to be closed in-place, the owner and operator must submit a sampling plan to the implementing agency for its approval prior to beginning closure.

(40) The following language is substituted in lieu of 40 CFR 280 Appendix II:

APPENDIX II — LIST OF AGENCIES DESIGNATED TO RECEIVE NOTIFICATIONS

Oregon (State Form)
Underground Storage Tank Program
Waste Management and Cleanup Division

Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204
503/229-6652

Report Releases to the Oregon Emergency Response System: 1-800-452-0311 or 1-800-452-4011

(41) In addition to the provisions of 40 CFR 280.21, the following is added:

(c) At least 30 days before beginning the upgrading of an existing UST system under paragraphs (b) and (c) of this section, or within another reasonable time period determined by the implementing agency, owners and operators must notify the implementing agency, on a form provided by the implementing agency, of their intent to upgrade an existing underground storage tank system. Unless the implementing agency agrees to waive the requirement, at least 3 working days before beginning the upgrade, owners and operators

~~or the licensed service provider performing the work must notify the implementing agency of the confirmed date and time the upgrade will begin to allow observation by the implementing agency. The owner and operator or licensed service provider must provide a completed installation check list within 30 days after completion of work.~~

~~(42) The following language is used in lieu of 40 CFR 280.34(a):~~

~~(a) Reporting. Owners and operators must submit the following information to the implementing agency:~~

~~(1) Notification for all UST systems (§ 280.22), which includes certification of installation for all new UST systems (§ 280.22(e));~~

~~(2) Reports of all releases that are required to be reported including suspected releases (§ 280.50), spills and overfills (§ 280.53), and confirmed releases (§ 280.61);~~

~~(3) Correction actions planned or taken including initial abatement measures (§ 280.62), initial site characterization (§ 280.63), free product removal (§ 280.64), investigation of soil and ground-water cleanup (§ 280.65), and correction action plan (§ 280.66);~~

~~(4) A notification before permanent closure or change in service (§ 280.71); and~~

~~(5) A notification before upgrading an existing UST system (§ 280.21).~~

~~(43) The following language is used in lieu of 40 CFR 280.41(a)(3):~~

~~(3) Tanks with capacity of 1,000 gallons or less may use weekly tank gauging (conducted in accordance with § 280.43(b)).~~

~~(44) The following language is used in lieu of 40 CFR 280.42(a):~~

~~(a) Release detection at existing UST systems must meet the requirements for petroleum UST systems in § 280.41. By December 22, 1998, all existing hazardous substance UST systems must meet the release detection requirements for new systems in paragraph (b) of this section.~~

~~(45) The following language is used in lieu of 40 CFR 280.43(b)(5):~~

~~(3) Only tanks of 1,000 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 1,001 to 2,000 gallons may use the method in place of manual inventory control in § 280.43(a). Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this subpart.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

~~Stat. Auth.: ORS 465.200 - 465.455 & 466.706 - 466.995~~

~~Stats. Implemented: ORS 465.400 & 466.746~~

~~Hist.: DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 26-1990, f. & cert. ef. 7-6-90; DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 24-1998, f. & cert. ef.11-2-98~~

340-150-0006

Applicability and General Requirements

(1) An owner and permittee of an UST system as defined by OAR 340-150-0010(84) must comply with this division, except to the extent exempted or deferred by OAR 340-150-0008 or limited by 340-150-0135(8).

(2) An owner and permittee of an UST system must apply to the department for a general permit registration certificate under OAR 340-150-0020 if the UST system:

(a) Is in operation on or after May 1, 1988;

(b) Was taken out of operation between January 1, 1974, and May 1, 1988, and not permanently closed by a method that meets the requirements of OAR 340-150-0168(4); or

(c) Was taken out of operation before January 1, 1974, but still contains a regulated substance (i.e., the UST is not empty).

(3) Each chamber or compartment of a multichamber or multicompartment UST is an individual tank for the purpose of OAR chapter 340, divisions 150 and 151.

[Note: Throughout this division, the term "owner and permittee" is used to denote joint responsibility for compliance. Where the owner and permittee are different, compliance by either will be deemed compliance by both.]

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.706, 466.710 & 466.746
Hist.: New

340-150-0008
Exemptions and Deferrals

(1) An owner of an UST located on Indian lands, as defined in 18 U.S.C. Subpart 1151, is exempt from OAR chapter 340, divisions 150 and 151.

(2) Heating oil tanks are exempt from OAR chapter 340, divisions 150 and 151, but the heating oil tank owner must comply with the requirements of ORS 466.858 through 466.882 and OAR chapter 340, division 177.

(3) An owner of the following types of USTs and any connected piping is exempt from the requirements of OAR chapter 340, divisions 150 and 151:

(a) Farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes (i.e., not for resale);

(b) Septic tanks;

(c) Pipeline facilities (including gathering lines) that are:

(A) Regulated under the Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et seq.);

(B) Regulated under the Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, et seq.); or

(C) Intrastate pipeline facilities regulated under state laws comparable to the provisions of the law referred to in paragraph (A) or (B) of this subsection.

(d) Surface impoundments, pits, ponds or lagoons;

(e) Storm water or wastewater collection systems;

(f) Flow-through process tanks;

(g) Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;

(h) Storage tanks situated in an underground area (such as a basement, cellar, mine-working, drift, shaft or tunnel) if the storage tank is situated upon or above the surface of the floor;

(i) UST systems holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act (SWDA) or a mixture of such hazardous waste and other regulated substances;

(j) Wastewater treatment tank systems that are part of a wastewater treatment facility regulated under Section 402 or 307(b) of the Clean Water Act;

(k) Equipment or machinery that contains regulated substances for operational purposes, such

as hydraulic lift tanks and electrical equipment tanks;

(l) UST systems with a capacity of 110 gallons or less;

(m) UST systems that have never contained more than a "de minimis" concentration of regulated substances; and

(n) Emergency spill or overflow containment UST systems that are expeditiously (i.e., as soon as practicable after emergency has been abated) emptied after use.

(4) The following UST systems are deferred from the requirements of this division, except owners must comply with the conditions of sections (5) and (6) of this rule:

(a) Wastewater treatment tank systems;

(b) UST systems containing radioactive materials that are regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(c) UST systems that are part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 40 CFR 50 Appendix A;

(d) Airport hydrant fuel distribution systems; and

(e) UST systems with field constructed tanks.

(5) A person may not install an UST system listed in section (4) of this rule for the purpose of storing regulated substances unless the UST system (whether of single- or double wall construction):

(a) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(b) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material or designed in a manner to prevent the release or threatened release of any stored substance; and

(c) Is constructed or lined with material that is compatible with the stored substance.

(6) An owner of any UST system listed in section (4) of this rule must conduct corrective action in the event of a release from the system.

(7) An owner may use The National Association of Corrosion Engineers Standard Recommended Practice RP0285, "Control of External Corrosion on Metallic Buried, Partially Buried or Submerged Liquid Storage Systems," (2002) as guidance for complying with sections (4) and (5) of this rule.

Stat. Auth.: ORS 465.200 - 465.455 & 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 465.205, 465.400, 466.710 - 466.720 & 466.746
Hist.: New

340-150-0010
Definitions

~~(1) The definitions of terms contained in this rule modify, or are in addition to, the definitions contained in **40 CFR 280.12** and **40 CFR 280.92.**~~For the purpose of this division and as applicable for OAR chapter 340, divisions 151 and 160, the following definitions apply:

(1) *"Ancillary equipment"* means any devices including, but not limited to, connected piping, fittings, flanges, valves and pumps used to distribute, meter or control the flow of regulated substances to and from an UST.

(2) *"As built drawing"* or *"as built"* means a line drawing to-scale that accurately illustrates the location of USTs, underground piping and all related equipment in relation to buildings or other structures at an UST facility and provides thorough construction documentation. Other terms used in lieu of *"as built"* are "record drawing" or "measured drawing", which indicate that the drawing is for an existing structure or UST system.

~~(2) "Bringing into operation" has the same meaning as operate or operation.~~

(3) *"Cathodic protection"* means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, an UST system can be cathodically protected through the application of either galvanic anodes or impressed current.

(4) *"Cathodic protection tester"* means a person who demonstrates an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged underground metal piping and tank equipment.

(5) *"CERCLA"* means the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended.

(6) *"Change-in-service"* means to transfer an UST system containing a regulated substance from regulated status (i.e., subject to the requirements of this division) to nonregulated status while the UST remains in its original location.

~~(3) "Cleanup" or "cleanup activity" has the same meaning as "corrective action" as defined in ORS 466.706 or "remedial action" as defined in ORS 465.200.~~

(7) *"Closure"* means to permanently decommission an UST (by removal, filling in-place with an inert material or change-in-service) or to temporarily remove an UST from operation.

(8) *"Commission"* means the Oregon Environmental Quality Commission.

(9) *"Compatible"* means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the UST system under conditions likely to be encountered in the UST.

(10) *"Confirmed release"* means:

(a) For petroleum. Contamination observed in soil or groundwater as a sheen, stain or petroleum odor or petroleum contamination detected in soil by the Northwest Total Petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID, DEQ, December 1996) or detected in groundwater by any appropriate analytical method specified in OAR 340-122-0218; or

(b) For hazardous substances other than petroleum. Contamination observed in soil or groundwater as a sheen, stain or identifiable odor or as detected in soil, surface water or groundwater by any appropriate analytical method specified in "Test Methods for Evaluating Solid Waste," SW-846, 3rd Edition, Revised May 1997 (U.S. Environmental Protection Agency).

(11) *"Connected piping"* means all piping located beneath the surface of the ground including valves, elbows, joints, flanges and flexible connectors attached to an UST system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

(412) *"Corrective Aaction"* means remedial action taken to protect the present or future public health, safety, welfare or the environment from a release of a regulated substance. *"Corrective Aaction"* includes but is not limited to:

(a) The prevention, elimination, removal, abatement, control, investigation, assessment, evaluation or monitoring of a hazard or potential hazard or threat, including migration of a

regulated substance; or

(b) Transportation, storage, treatment or disposal of a regulated substance or contaminated material from a site.

(13) *"Corrosion expert"* means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged underground metal piping systems and metal tanks. Corrosion experts must be accredited or certified by NACE (National Association of Corrosion Engineers) and licensed by the department under OAR chapter 340, division 160.

(~~5~~14) *"Decommission"* means temporary or permanent closure, including temporary or permanent removal from operation, filling in-place, removal from the ground or change-in-service to a nonregulated status.

(15) *"Deferred"* means an UST system that may be subject to state or federal regulation at some point in the future.

(16) *"De minimis"* means an insignificant amount of regulated substance (e.g., meets the definition of *"empty"*) or is less than a reportable quantity as defined under CERCLA.

(~~6~~17) *"Department"* means the Oregon Department of Environmental Quality.

(18) *"Dielectric material"* means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate an UST system from the surrounding soils. Dielectric bushings are used to electrically isolate portions of an UST system (e.g., the tank from underground piping).

~~(7) *"Director"* means the Director of the Oregon Department of Environmental Quality or the Director's authorized representative.~~

(19) *"Dispenser"* means a device that is used for the delivery of a regulated substance from an UST (e.g., fuel from an UST to a motor vehicle). The term includes associated metering, delivery mechanisms and other equipment contained inside a housing unit for the dispenser.

(20) *"Distributor"* means a person who is engaged in the business of selling regulated substances to an owner or permittee of an UST.

(21) *"Electrical equipment"* means equipment that is beneath the surface of the ground and contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

(22) *"Emergency generator"* means an engine that uses fuel (regulated substance) to produce auxiliary electrical or mechanical energy for use in emergencies.

(23) *"Empty"* means that all materials have been removed using commonly employed practices so that no more than one inch (2.5 centimeters) of residue or 0.3 percent by weight of the total capacity of the tank remain in the UST system.

(24) *"Excavation zone"* means an area containing an UST system and backfill material bounded by the ground surface, walls and floor of the pit and trenches into which the UST system is placed at the time of installation.

(25) *"Farm tank"* means a tank located on a tract of land devoted to the production of crops or raising animals, including fish and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

(~~8~~26) *"Fee"* means a fixed charge or service charge.

(27) *"Field constructed tank"* means an UST that is constructed at the location it will be

installed rather than factory-built.

(28) *"Field penalty"* means a civil penalty amount assessed in a field citation.

(29) *"Flow-through process tank"* means a tank that forms an integral part of a production process through which there is a steady, variable, recurring or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials before their introduction into the production process or for the storage of finished products or by-products from the production process.

(30) *"Free product"* means a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water).

(31) *"Gathering lines"* means any pipeline, equipment, facility or building used in the transportation of oil or gas during oil or gas production or gathering operations.

(32) *"General permit"* means a permit issued for a category of UST activities (e.g., installing, decommissioning or operating an UST) in lieu of individual permits developed for each UST facility.

(33) *"Hazardous substance UST system"* means an UST system that contains a hazardous substance defined in section 101(14) of CERCLA or any mixture of such substances and petroleum and which is not a petroleum UST system (but not including any substance regulated as a hazardous waste under Subtitle C of the SWDA).

(34) *"Heating oil"* means petroleum that is No. 1, No. 2, No. 4--light, No. 4--heavy, No. 5--light, No. 5--heavy and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers or furnaces.

(35) *"Heating oil tank"* means a tank used for storing heating oil for consumptive use on the premises where stored (i.e., the tank is located on the same property where the stored heating oil is used).

(36) *"Hydraulic lift tank"* means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators and other similar devices.

(~~9~~37) *"Install"* or *"installation"* means the physical construction of an ~~underground storage tank~~UST system, including, but not limited to, activities such as excavating~~;~~, backfilling~~;~~, testing~~;~~, ~~proper~~ placement of the tank, underground piping, ~~leak~~release detection devices, corrosion protection systems, spill and overfill devices~~;~~ and any associated administrative activities such as notifications, record keeping and record submissions.

(38) *"Interstitial"* means the space between the primary and secondary containment systems (i.e., the space between the inner and outer walls of a tank or pipe).

(~~10~~39) *"Investigation"* means monitoring, surveying, testing, sampling, analyzing or other information gathering techniques.

(40) *"Leak"* has the same meaning as *"release"* as defined by OAR 340-150-0010(63).

(41) *"Liquid traps"* means sumps, well cellars and other traps used in association with oil and gas production, gathering and extraction operations (including gas production plants), for the purpose of collecting oil, water and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream or may collect and separate liquids from a gas stream.

(42) *"Maintenance"* means the normal operational upkeep to prevent an UST system from releasing a regulated substance or to ensure that a release is detected.

(43) *"Modification"* means to change an UST system currently in use by the installation of new UST system components. This includes, but is not limited to, the addition of corrosion protection to a previously lined tank, installation of new underground piping or replacement of existing underground piping, changing the primary release detection method to one of the methods listed in OAR 340-150-0450 through 340-150-0470 or adding secondary containment. *"Modification"* does not include those activities defined as *"repair"* or *"replacement"*.

(44) *"Motor fuel"* means petroleum or a petroleum based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel or any grade of gasohol and is typically used in the operation of a motor engine.

(~~11~~45) *"Multi-~~C~~chamber"* or *"~~M~~multi-~~C~~compartment"* means an ~~underground storage tank~~UST that contains two or more chambers or compartments created by the presence of an interior ~~baffles~~wall so that two or more regulated substances can be stored at the same time within a single tank shell. Even if the same regulated substance is stored in all chambers or compartments, the ~~tank~~UST is a multi-chambered or multi-compartmented ~~tank~~UST for the purpose of these rules.

(46) *"Native soil"* means the soil outside of the immediate boundaries of the pit that was originally excavated for the purpose of installing an UST.

(~~12~~47) *"OAR"* means Oregon Administrative Rule.

(~~13~~48) *"Operate" or "~~O~~operation"* means depositing a regulated substance into an UST~~;~~, storing a regulated substance in or dispensing a regulated substance from an ~~underground storage tank~~UST~~;~~ and such other activities, including, but not limited to, performing ~~leak~~release detection, maintaining corrosion protection, preventing spills and overfills, investigating and confirming suspected releases, conducting maintenance, additions, modifications, replacements and repairs of equipment, maintaining a financial ~~assurance~~responsibility mechanism and keeping and submitting records on the ~~tank~~UST and underground piping~~'~~s' performance.

(49) *"Operational life"* means the period beginning when installation of the UST system has commenced until the time the UST system is permanently closed.

~~(5) *"Operator"* means the same as *"permittee"*.~~

(~~14~~50) *"ORS"* means Oregon Revised Statute.

(~~15~~51) *"Owner"* means a person who currently owns an UST or owned an ~~underground storage tank~~UST during the tank's operational life, including~~:~~:

(a) In the case of an UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use or dispensing of regulated substances; and

(b) In the case of an UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

(~~16~~52) *"Permittee"* means the owner or person designated by the owner, ~~on a general permit registration form~~ who is in control of or has responsibility for ~~the~~ daily UST system operation ~~and or daily~~ maintenance, financial responsibility and UST operator training requirements under ~~a of an underground storage tank~~ general permit ~~in accordance with the conditions and requirements of a general permit~~ pursuant to OAR 340-150-0160 through 340-150-~~0166~~0168.

(53) *"Person"* means an individual, trust, firm, joint stock company, corporation, partnership, joint venture, consortium, association, state, municipality, commission, political subdivision of a state or any interstate body, any commercial entity or the federal government or any agency of the federal government.

(54) *"Petroleum"* or *"oil"* means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute. *"Petroleum"* does not include any substance identified as a hazardous waste under 40 CFR Part 261.

(55) *"Petroleum UST system"* means an UST system that contains petroleum or a mixture of petroleum with *de minimis* quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils.

(56) *"Pipe"* or *"piping"* means a hollow cylinder or tubular conduit that is constructed of nonearthen materials.

(57) *"Pipeline facilities"* (including gathering lines) means new and existing pipe rights-of-way and any associated equipment, facilities or buildings.

(58) *"Probability of detection"* means the likelihood, expressed as a percentage, that a test method will correctly identify a release from an UST system.

(59) *"Probability of false alarm"* means the likelihood, expressed as a percentage, that a test method will incorrectly identify an UST system as leaking when a release is not occurring.

(60) *"Property owner"* means the legal owner of the real property on which an UST is located.

(~~17~~61) *"Registration ~~C~~certificate"* means a document issued by the ~~D~~department that authorizes a person to install, operate or decommission an UST system under a general permit pursuant to ~~OAR 340-150-0019 and~~ OAR 340-150-0160 through 340-150-0166~~8~~.

(62) *"Regulated substance"* includes, but is not limited to:

(a) Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under Subtitle C of the SWDA);

(b) Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute); and

(c) Petroleum based substances comprised of a complex blend of hydrocarbons derived from crude oil though processes of separation, conversion, upgrading and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils.

(~~18~~63) *"Release"* means the discharge, deposit, injection, dumping, spilling, emitting, leaking or placing of a regulated substance from an ~~underground storage tank~~UST into the air or into or on land or the waters of the state, other than as authorized by a permit issued under state or federal law.

(64) *"Release detection"* or *"leak detection"* means determining whether a release of a regulated substance has occurred from the UST system into the environment, into the interstitial space between the UST system and its secondary barrier or into a secondary containment unit or sump around the UST.

(65) *"Repair"* means to restore any portion of an UST system that has failed, but does not include the activities defined by *"modification"* or *"replacement"*.

(66) *"Replacement"* means to effect a change in any part of an UST system by exchanging one unit for a like or similar unit, but does not include activities defined as *"repair"* or

"modification".

(67) *"Residential tank"* means a tank located on property used primarily for single family dwelling purposes.

~~(19) *"Responsible person"* means any person ordered or authorized to undertake remedial actions or related activities under ORS 465.200 through 465.455.~~

(68) *"Septic tank"* means a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

(69) *"Service provider"* means a person licensed by the department to offer to perform or perform UST services on USTs regulated under OAR chapter 340, division 150.

(70) *"Storm water"* or *"wastewater collection system"* means piping, pumps, conduits and any other equipment necessary to collect and transport the flow of surface water run off resulting from precipitation or domestic, commercial or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

(71) *"Supervisor"* means an individual licensed by the department to direct and oversee specific UST services.

(72) *"Surface impoundment"* means a natural topographic depression, human-made excavation or diked area formed primarily of earthen materials (although it may be lined with human-made materials) that is not an injection well.

(73) *"Suspected release"* has the same meaning as described in OAR 340-150-0500.

(74) *"Tank"* means a stationary device designed to contain an accumulation of regulated substances and is constructed of nonearthen materials (e.g., concrete, steel, plastic) that provide structural support.

(75) *"Tank tightness testing"* means a method used to determine if an UST is leaking and is used to supplement another release detection method (such as inventory control or manual tank gauging) and to verify a suspected release when another method indicates a failure.

(76) *"Temporary closure"* means a halt in operation activities of an UST system for a limited time where the UST system will be brought back into operation or permanently decommissioned at some future date. For example, an UST may be temporarily closed due to corrective action activities on site, abandonment by the owner and permittee, bankruptcy proceedings, failure to maintain a financial responsibility mechanism, sale in progress or for any other reason that a permittee may choose to stop operating the UST. The term applies to an UST system that meets the definition of *"temporary closure"* whether or not the department has issued a registration certificate for this activity to the owner and permittee.

(77) *"Testing"* means applying a method to determine the integrity or operational status of any part of an UST system.

(78) *"Third party evaluation"* means an evaluation of a method or system including, but not limited to, a release detection system or tank integrity assessment method that is conducted by an independent organization. The evaluation includes certification that the method evaluated will operate as designed and includes information about any limitations of the method. As used in this definition, "independent" means that the organization that conducted the evaluation may not be owned, controlled by or associated with any client, industry organization or any other institution with a financial interest in the method or system evaluated.

(79) *"Underground area"* means an underground room, such as a basement, cellar, shaft or vault that provides enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

(80) *"Underground piping"* means connected piping that is located beneath the surface of the ground.

(2081) *"Underground storage tank"* or *"UST"* means ~~"Underground storage tank", as defined in 40 CFR 280.12.~~ any one or combination of tanks (including connected underground pipes) that is used to contain an accumulation of regulated substances and the volume of which (including the volume of connected underground pipes) is 10 percent or more beneath the surface of the ground.

(82) *"UST facility"* means the real property on which an UST is installed or will be installed. An UST facility encompasses all contiguous real property owned by the same property owner that is associated with the operation of the UST system.

(83) *"UST services"* includes without limitation, installation, decommissioning, modification, testing (e.g., cathodic protection and tank tightness) and inspection of UST systems.

(84) *"UST system"* means an underground storage tank, underground piping, underground ancillary equipment and containment system, if any.

(85) *"UST system operator"* means the individual designated by the owner and permittee as having control of or responsibility for the operation of an UST system, including the on-site operation and maintenance of the system in a manner to ensure that the UST system is in compliance with applicable state and federal regulations and industry standards.

(86) *"Wastewater treatment tank"* means a tank that is designed to receive and treat influent wastewater through physical, chemical or biological methods.

~~(21) "Seller" or "Distributor" means person who is engaged in the business of selling regulated substances to the owner or permittee of an underground storage tank.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

Stat. Auth.: ORS 466.706 - 466.835, 466.~~895~~994 & 466.995
Stats. Implemented: ORS ~~465.200, 465.400,~~ 466.706 & 466.746
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 21-1989(Temp), f. & cert. ef. 9-18-89; DEQ 10-1990, f. & cert. ef. 3-13-90; DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 24-1998, f. & cert. ef. 11-2-98

~~**340-150-0015**~~
~~**ExemptedTanks**~~

~~The following regulatedunderground storage tanks are exempt from the requirements of theserules. The exempt underground storage tanks are the undergroundstorage tanks defined by **40 CFR 280.10.**~~

~~[Publications: Thepublication(s) referred to or incorporated by reference in this ruleis available from the agency.]~~

Stat. Auth.:ORS466.706 ORS466.895 &ORS466.995
Stats. Implemented:ORS466.706 &ORS466.710
Hist.: DEQ 10-1990, f.& cert. ef. 3-13-90; DEQ 20-1990, f. & cert. ef. 6-7-90

340-150-0016
Multi-Chamber or Multi-Compartment Tanks, Conditions and Requirements
For the purposes of the underground storage tank general permit program established by OAR 340-150-0019 through 340-150-0166, each chamber or compartment of a multi-chambered or multi-compartmented tank is considered a separate tank and must be registered as such.

Stat. Auth.: ORS 466.706 - 466.995
Stats. Implemented: ORS 466.746, 466.750 & 466.760
Hist.: DEQ 24-1998, f.& cert. ef. 11-2-98

340-150-0019
Compliance With Underground Storage Tank General Permit Required
Effective December 23, 1998, any person who installs, operates or decommissions an underground storage tank intended to hold, is holding, or that held a regulated substance must comply with the conditions and requirements of a general permit pursuant to OAR 340-150-0160 through 340-150-0166.

Stat. Auth.: ORS 466.706 - 466.995
Stats. Implemented: ORS 466.746, 466.750 & 466.760
Hist.: DEQ 24-1998, f.& cert. ef. 11-2-98

340-150-0020
Underground Storage Tank General Permit Registration Certificate Required

(1) After December 22, 1998, any person may notwho installs, operates or decommissions an underground storage tankUST mustwithout firstapplying for and being issued a obtain an underground storage tank general permit registration certificate from the department for one of the following UST general permit registration categories as defined in OAR 340-150-0010 (17) from the Department:, except as otherwise provided in OAR 340-150-0021 (3) for persons who must decommission temporarily permitted tanks on or after December 23, 1998.

(a) Installation;

(b) Operation; or

(c) Decommissioning, including temporary and permanent closure by change-in-service, removal or filling in-place.

(2) An owner or proposed permittee must submit an application to the department at least 30 days before installing, operating or decommissioning an UST. The application must include, but is not limited to, the following information and attachments:

(a) The legal name, signature and mailing address of the owner of the UST;

(b) The legal name, signature and mailing address of the owner of the real property on which the UST system is located;

(c) The legal name, signature and mailing address of the permittee.

(A) The owner must designate a specific person as the permittee. If the person designated is a

corporation, a contact person must be identified; or

(B) If a permittee is not designated, the owner is the permittee.

(d) A completed EPA Notification for Underground Storage Tanks or equivalent form developed by the department; and

(e) A signed statement by the owner or proposed permittee that the owner or permittee (must identify which one) will comply with the financial responsibility requirements of OAR chapter 340, division 151 before operation of the UST system.

(3) The owner or proposed permittee must include the appropriate registration fee with the application in accordance with OAR 340-150-0110(1) and (6) for an *installation certificate* for new USTs to be installed or 340-150-0110(5) for an *operation* or *decommissioning certificate* for USTs that should have been registered previously.

(4) An application that is incomplete, unsigned or that does not include the required attachments or fees will be returned to the owner or proposed permittee for completion. The application will be considered to be withdrawn if the required information is not submitted within 90 days of the date that the application was returned by the department.

(5) If the department determines that a general permit is not required, the owner and proposed permittee will be notified in writing and any fees submitted will be refunded. This notification constitutes final action by the department on the application.

(6) When an application is determined to be complete, the UST facility and each individual UST will be assigned a unique identification number (i.e., UST facility ID number and tank permit number) by the department.

(7) A general permit registration certificate is issued to the permittee for each UST facility. In all cases, the permittee must comply with the general permit requirements whether or not an actual registration certificate is issued.

(8) For the purpose of this rule only, the term "legal name" means the business name registered with the Oregon Secretary of State's Office, Corporation Division (if registered) or full name of an individual.

~~(2) After December 22, 1998, any person wanting to obtain a modification of a general permit registration form must file a new general permit registration certificate pursuant to subsections 3 (a) and (b) of this section..~~

~~(3) After December 22, 1998, general permit registration certificates are issued to the person designated as the permittee for the activities and operations of record and terminate:~~

~~(a) 120 days after any change of ownership of property in which the tank is located, ownership of tank or permittee;~~

~~(b) 120 days after a change in the nature of activities and operations from those of record in the last registration; or~~

~~(c) Upon issuance of a new or modified general permit registration certificate for the same operation.~~

~~(4) General permit conditions and requirements may be modified upon adoption of new or revised rules by the Commission.~~

Stat. Auth.: ORS ~~465.200 - 465.455 &~~ 466.705~~6~~ - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.760
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0021

Termination of ~~Existing~~ Temporary Permits

~~(1) On December 23, 1998, all existing temporary permits issued pursuant to OAR 340-150-0020(5) or OAR 340-150-0040(5) terminate.~~

~~(2) All persons holding a temporary permit on or before December 22, 1998 and operating underground storage tanks, including depositing regulated substances into said tanks, on or after December 23, 1998 must have a general permit registration certificate for operation pursuant to OAR 340-150-0020 and must provide the general permit registration certificate number to their distributor pursuant to OAR 340-150-0150 (2). To obtain a general permit registration certificate, such persons must submit a general permit registration form pursuant to OAR 340-150-0040.~~

~~(3) All persons~~ny owner or permittee holding a temporary permit to operate an UST on or before December 22, 1998, who ~~have~~was not ~~obtained~~issued an ~~general permit registration~~ *operation certificate* by the department ~~for operation of USTs~~ by December 23, 1998, must decommission the USTs ~~in accordance with the conditions and requirements of the~~ under a general permit for ~~decommissioning an UST by~~ temporary closure, ~~or~~ permanent closure or change-in-service pursuant to OAR 340-150-0166 through 340-150-0168~~on or after December 23, 1998. Such persons are not permitted to operate the USTs or deposit a regulated substance into the USTs on or after December 23, 1998.~~

~~[NOTE: Persons decommissioning under subsection (3) of this section are not required to submit a general permit registration form. The Department will provide a copy of the general permit requirements for decommissioning an UST by temporary or permanent closure or change-in-service after December 23, 1998.]~~

Stat. Auth.: ORS 466.706 - 466.~~995~~835, 466.994 & 466.995
Stats. Implemented: ORS 466.746, 466.750 ~~&~~ 466.760 & 466.765
Hist.: DEQ 24-1998, f. & cert. ef. 11-2-98

~~**340-150-0030**~~

~~**Underground Storage Tank Permit Application Required**~~

~~(1) On or before May 1, 1988 the following persons must apply for an underground storage tank permit from the Department:~~

~~(a) An owner of an underground storage tank currently in operation;~~

~~(b) An owner of an underground storage tank taken out of operation between January 1, 1974, and May 1, 1988 and not permanently decommissioned in accordance with OAR 340-150-0130; and~~

~~(c) An owner of an underground storage tank that was taken out of operation before January 1, 1974, but that still contains a regulated substance.~~

~~(2) After May 1, 1988 the owner of an underground storage tank must apply for an underground storage tank permit from the Department prior to installation of the tank and placing an existing underground storage tank in operation or modifying an existing permit.~~

~~[NOTE: After December 22, 1998 all persons must comply with the general permit program established by OAR 340-150-0019, 340-150-0020 and OAR 340-150-0160 through 340-150-~~

~~0166 in lieu of compliance with this rule.]~~

~~Stat. Auth.: ORS 465.200 – 465.455 & 466.706 – 466.995~~
~~Stats. Implemented: ORS 466.746, 466.750 & 466.760~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 15-1991, f. & cert. ef. 8-14-91;DEQ 24-1998, f. & cert. ef. 11-2-98~~

~~340-150-0040~~
~~Underground Storage Tank General Permit Registration Form~~

~~(1) Any person required to obtain a general permit registration certificate pursuant to OAR 340-150-0020 must submit a general permit registration form provided by the Department. General permit registration forms must be submitted at least 30 days before installing, operating or decommissioning an underground storage tank under a general permit. All general permit registration forms must be completed in full, including all required exhibits and information as specified by OAR 340-150-0050.~~

~~(2) General permit registration forms that are obviously incomplete, unsigned, or do not contain the required exhibits (clearly identified) will be returned to the applicant for completion. The general permit registration form will not be considered complete for processing until the required information is received. The general permit registration form will be considered to be withdrawn if the applicant fails to submit the required information within 90 days of the date the form was returned.~~

~~(3) General permit registration forms that appear complete will be accepted by the Department for processing and a numbered underground storage tank general permit registration certificate will be issued.~~

~~(4) If, the Department determines that compliance with a general permit is not required, the Department will notify the registrant in writing of this determination. Such notification constitutes final action by the Department on the general permit registration form.~~

~~(5) Any person applying for a general permit registration certificate for an existing UST system not previously reported as required by OAR 340-150-0030 must complete and submit a general permit registration form as specified in this section. Payment for required permit and annual compliance fees must accompany this form.~~

~~(a) Applicable general permit registration fee as required by OAR 340-150-0070; and~~

~~(b) Any outstanding annual compliance fees which should have been paid for earlier calendar years as required by OAR 340-150-0110.~~

~~Stat. Auth.: ORS 466.706 – 466.995~~
~~Stats. Implemented: ORS 466.746 & 466.760~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 24-1998, f. & cert. ef.11-2-98~~

~~340-150-0050~~
~~Information Required onthe General Permit Registration Form~~

~~(1) The following information on the underground storage tank general permit registration form is required:~~

~~(a) The legal name and mailing address of the owner of the underground storage tank;~~

~~(b) The legal name and mailing address of the owner of the real property in which the underground storage tank is located;~~

~~(c) The legal name and mailing address of the proposed permittee of the underground storage tank;~~

~~(d) The signatures of the owner of the underground storage tank, the owner of the real property and the proposed permittee, except as otherwise provided in subsection (4) of this section;~~

~~(e) The facility name and location address;~~

~~(f) The substances currently stored, to be stored or last stored;~~

~~(g) The operating status of the tank;~~

~~(h) The estimated age of the tank;~~

~~(i) A description of the tank, including tank design and construction materials used;~~

~~(j) A description of piping, including piping design and construction materials used;~~

~~(k) A complete history of tank system repairs, including repair date(s);~~

~~(l) A description of the type of leak detection and overfill protection for the tank; and~~

~~(m) The federal notification form, **Sections I through VI** of **Appendix I** of **40 CFR 280** (or appropriate state form).~~

~~(2) For multi-chambered or multi-compartmented tanks, information required by subsections (f) through (m) of this section must be provided for each chamber or compartment.~~

~~(3) The registrant must specify which general permit or permits (installation, operation or decommission) the registrant is applying for.~~

~~(4) The property owner's signature is not required on general permit registration forms submitted by persons currently holding a temporary permit issued on or before December 22, 1998.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

~~Stat. Auth.: ORS 466.706 - ORS 466.995~~
~~Stats. Implemented: ORS 466.746 & ORS 466.760~~
~~Hist.: DEQ 2-1988, f.1-27-88, cert. ef. 2-1-88; DEQ 20-1990, f. & cert. ef. 6-7-90;DEQ 24-1998, f. & cert. ef. 11-2-98~~

~~340-150-0060~~
~~Authorized Signatures, General Permit Registration Form~~

~~The following persons must sign a general permit registration form submitted to the Department.~~

~~(1) The owner of an underground storage tank storing a regulated substance.~~

~~(2) The owner of the real property in which an underground storage tank is located.~~

~~(3) The proposed permittee.~~

~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.746 & 466.760~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 24-1998, f. & cert. ef.11-2-98~~

340-150-0052
Modification of Registration Certificates

(1) A new owner or proposed new permittee must submit an UST general permit registration

modification application to the department if any of the following occur:

(a) Change of ownership of property on which an UST system is located;

(b) Change in UST ownership; or

(c) Change in the designated permittee.

(2) The modification application must be signed by the owner, permittee and property owner. The new owner or permittee must submit an application to the department promptly upon confirmation that the change has been legally documented (i.e., property sale is complete). Failure to submit the required modification application will result in termination of the *operation certificate* in accordance with OAR 340-150-0102(1).

(3) The modification application must include a copy of the financial assistance mechanism (e.g., insurance certificate or endorsement, trust fund, etc.) that demonstrates compliance with the requirements of OAR chapter 340, division 151.

(4) A $75 general permit modification fee must accompany the modification application. Checks or money orders must be payable to the Department of Environmental Quality.

(5) A new *operation certificate* will be issued to the permittee upon receipt of all required information and payment of the fee.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746, 466.760, 466.765 & 466.783
Hist.: New

~~**340-150-0070**~~
~~**Underground Storage Tank General Permit Registration Form Fee**~~

~~(1) A general permit registration fee of $35 per tank must accompany each underground storage tank general permit registration form. For registration forms received after December 22, 1998, the pertank general permit registration form fee will also be considered the first per tank compliance fee required by OAR 340-150-0110.~~

~~(2) For multi-chambered or multi-compartmented tanks, the per tank general permit registration fee must be paid on each chamber or compartment.~~

~~(3) No general permit registration form fee is required if the registration is solely for the purpose of recording a change in ownership of the underground storage tank, ownership of the real property, of the permittee, or a change in operation of the underground storage tank.~~

~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.785~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 24-1998, f. & cert. ef. 11-2-98~~

340-150-0080

Denial, Suspension or Revocation of ~~Underground Storage Tank~~ General Permit Registration Certificates

(1) An ~~underground storage tank~~UST general permit registration certificate ~~for installation or operation~~ may be denied, suspended or revoked:

(a) If there was a material misrepresentation or false statement in the application; or

(b) ~~I~~If the ~~underground storage tank~~ UST system operation, maintenance, installation or ~~operation~~decommissioning ~~is~~does not ~~in conformance~~comply with the provisions of OAR

chapter 340, divisions 150 or 151, ~~these underground storage tank rules, general permit conditions and requirements~~applicable statutes, rules or department order ~~pursuant to OAR 340-150-0160 or 340-150-0163 or ORS 466.706 through 466.835, ORS 466.994 and 466.995~~.

(2) The provisions of ORS 183.310 to 183.550 for a contested case proceeding apply to the denial, suspension or revocation of a general permit registration certificate.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.775
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 24-1998, f. & cert. ef. 11-2-98

~~**340-150-0090**~~
~~**Revocation of Underground Storage Tank General Permit Registration Certificate**~~
~~An underground storage tank general permit registration certificate may be revoked if there was a material misrepresentation or false statement in the general permit registration form, the underground storage tank installation or operation is not in conformance with the underground storage tank general permit conditions and requirements pursuant to OAR 340-150-0160 or 340-150-0163 or these underground tank rules or there is a violation of ORS 466.706 through 466.835, ORS 466.994 and 466.995.~~

~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.775~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 24-1998, f. & cert. ef. 11-2-98~~

~~**340-150-0100**~~
~~**Procedures for Denial and Revocation of General Permit Registration Certificates**~~
~~The provisions of ORS 183.310 to 183.550 for a contested case proceeding apply to the denial or revocation of general permit registration certificates.~~
~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.775~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 24-1998, f. & cert. ef. 11-2-98~~

340-150-0102
Termination of Registration Certificates

(1) A general permit registration certificate will automatically terminate 120 days after any of the changes set forth in OAR 340-150-0052 have occurred, unless the department has received an application for modification.

(2) An *installation certificate* will automatically terminate when the department issues an *operation certificate*.

(3) An *operation certificate* will automatically terminate:

(a) When the department issues a *temporary closure certificate*;

(b) On the date that temporary closure occurred or is discovered by the department if a *temporary closure certificate* has not been issued; or

(c) On the date change-in-service or permanent closure begins.

(4) A *temporary closure certificate* will automatically terminate upon completion of all change-in-service or permanent closure requirements or if the UST system is returned to operational status (OAR 340-150-0167(1)(b)).

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.760
Hist.: New

340-150-0110

~~Underground Storage Tank~~ General Permit Registration, Annual Compliance ~~Fee~~and Other Fees

(1) An owner and permittee must pay a general permit registration fee for each tank. This fee must accompany the UST general permit registration application. The registration fee is the same amount as the annual compliance fee listed in section (2) of this rule.~~Beginning March 1, 1989, the permittee must pay an annual underground storage tank general permit compliance fee of $25 per tank per year. For calendar year 1994 and every year thereafter the permittee must pay an annual underground storage tank compliance fee of $35 per tank per year, except that for calendar year 1998, permittees of tanks not in compliance with the 1998 technical standards must pay a permit fee of $60 per tank.~~

(2) Each calendar year (January 1 to December 31) following installation, the owner and permittee must pay an annual ~~underground storage tank general permit~~ compliance fee ~~of $35 per tank per year, except that for calendar year 1999, permittees of tanks not in compliance with the 1998 technical standards must pay a general permit compliance fee of $60 per tank.~~for each UST that has not been permanently decommissioned, for any portion of the year, according to the following schedule:

(a) $25 per tank for the years 1988, 1989, 1990, 1991, 1992 and 1993;

(b) $35 per tank for the years 1994, 1995, 1996 and 1997;

(c) $60 per tank for the years 1998, 1999, 2000 and 2001, except that for 1998 and 1999 the fee is $35 for any permittee that self-certifies its compliance with 1998 technical standards to the department;

(d) $105 per tank for 2002, which includes a $20 surcharge per tank; and

(e) $85 per tank for the years 2003, 2004 and 2005.

(3) For multi-chambered or multi-compartmented ~~tank~~USTs, the general permit registration fee and annual ~~per tank general permit~~ compliance fee must be paid for each chamber or compartment.

(4) The department will issue an invoice to each permittee for the annual compliance fees due for each UST facility for each calendar year. The permittee must pay fees by the due date listed on the invoice. A $35 late fee will be added to the total amount due for each invoice for which payment is not received by the due date. At its discretion, the department may allow the permittee to make alternative arrangements for payment.

(45) For any UST that was not permitted by May 1, 1988, or that was not permitted before installation during any year thereafter, ~~T~~the ~~underground storage tank general permit~~ owner and permittee must pay the annual compliance fee ~~must be paid~~ for each calendar year ~~(January 1 through December 30)~~ or part of a calendar year ~~that~~ since installation, except that the total amount of fees owed will not be more than $500 per tank.~~an underground storage tank is not~~

~~permanently closed in accordance with **40 CFR 280.71**.~~ These fees must be paid before the department will approve a 30-day or 3-day notice to decommission the UST.

(6) In addition to the general permit registration fee, an owner and permittee must pay a $400 installation fee for each UST installed. This fee must be included with the general permit registration application.

(~~5~~7) ~~The general permit compliance~~All checks or money orders for fees must be made payable to the Department of Environmental Quality.

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

Stat. Auth.: ORS 466.706 - 466.835, 466.994, 466.995 & Ch. 767-, OL 1997
Stats. Implemented: ORS 466.783 & 466.785
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 20-1989(Temp), f. & cert ef. 8-1-89 (and corrected 8-3-89); DEQ 34-1989, f. & cert. ef. 12-14-89; DEQ 20-1990, f. & cert. ef. 6-7-90; DEQ 7-1994, f. & cert. ef. 3-22-94; DEQ 24-1998, f. & cert. ef.11-2-98

~~**340-150-0112**~~
~~**UST Fee Waiver**~~
~~(1) The UST general permit registration fee required by OAR 340-150-0070 may be waived by the Director.~~
~~(2) An annual UST general permit compliance fee required by OAR 340-150-0110 may be waived by the Director.~~

~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.785~~
~~Hist.: DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 24-1998, f. & cert. ef.11-2-98~~

~~**340-150-0130**~~
~~**Permanent Decommissioning of an Underground Storage Tank**~~
~~The permanent decommissioning requirements for underground storage tanks are described in **40 CFR 280.70 through 280.74, Subpart G – Out of Service UST Systems and Closure**.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality.]~~

~~Stat. Auth.: ORS 466.706 - 466.995~~
~~Stats. Implemented: ORS 466.746~~
~~Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 15-1989, f. & cert. ef. 7-28-89 (and corrected 8-3-89); DEQ 20-1990, f. & cert. ef. 6-7-90~~

340-150-0135
General Requirements for Owners, Permittees and UST System Operators
(1) The permittee must designate a specific person as the UST system operator. If an UST system operator is not designated, the permittee is the UST system operator.

(2) The property owner, UST owner and permittee must allow any department employee or authorized representative of the department access to property where an UST is located at any reasonable time to interview persons, inspect equipment and site conditions, collect samples, take still or video pictures, conduct an investigation or review and copy records.

(3) An owner and permittee of a petroleum UST system subject to this division must continuously comply with the financial responsibility requirements of OAR chapter 340, division 151.

(4) An owner and permittee must provide information regarding an UST system, UST facility or UST system operator to the department upon request.

(5) An owner and permittee must notify the department in writing within 30 days of any of the following:

(a) A change in contents of an UST as listed on the *operation certificate* from one regulated substance to another (e.g., gasoline to diesel);

(b) A change in the name of the contact person for the permittee, if the permittee has not changed;

(c) A change in the mailing address or phone number of the property owner, owner or permittee; and

(d) A decision by the owner and permittee to place any UST system into temporary closure status.

(6) Upon receipt of any information submitted in accordance with section (5) of this rule, the department may issue a modified *operation certificate* or a *temporary closure certificate*. The $75 registration certificate modification fee is not applicable unless these changes are reported to the department at the same time as a change specified under OAR 340-150-0052.

(7) An owner and permittee of an UST system subject to this division must also comply with the following release reporting, site investigation and corrective action requirements:

(a) OAR 340-122-0205 through 340-122-0360 for petroleum USTs.

(b) OAR 340-122-0010 through 340-122-0115 for USTs containing nonpetroleum regulated substances, except that any releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(8) An owner and permittee of any UST system used solely to contain fuel for emergency power generators must comply with all provisions of this division, except for the release detection requirements of OAR 340-150-0400 through 340-150-0470 and the training and emergency response information requirements of 340-150-0200.

(9) In addition to any other requirements of this division, an owner and permittee must decommission any UST system that does not meet the requirements of this division in accordance with the general permit registration requirements for permanent closure (OAR 340-150-0166 or 340-150-0168).

(10) Any notification made to the department by an owner and permittee may be made in writing sent by U.S. mail, electronic mail, facsimile or verbally by telephone provided it is received by the department by the required due date, unless otherwise specified by rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746, 466.765, 466.805 & 466.815
Hist.: New

340-150-0140

Requirements for Sellers of ~~to Notify the Underground Storage Tanks Owner and Operator~~

~~(1) After December 22, 1998, a~~Any person who sells an ~~underground storage tank~~UST must notify ~~the~~a proposed new owner and permittee ~~of the tank~~ in writing of the requirements for ~~obtaining~~applying for a ~~an underground storage tank~~ modified general permit *operation ~~registration~~ certificate* (OAR 340-150-0052) or a general permit *installation certificate* (340-150-0020).

(2) A former owner and permittee must transfer all documentation pertaining to the UST system to a new owner and permittee.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746, 466.760 & 466.765
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0150

Depositing Regulated Substances in ~~Underground Storage Tanks~~

(1) A person may not deposit or cause to be deposited a regulated substance into an UST unless the owner and permittee of the UST facility have a current *operation certificate* for the tank.~~After December 22, 1998, any person who deposits or causes to be deposited a regulated substance into an underground storage tank that has not been issued a general permit registration certificate for operation by the Department is in violation of these rules.~~

~~(a)~~(2) ~~After December 22, 1998, b~~Before arranging ~~future deliveries~~ delivery of a regulated substance, ~~the~~an owner and permittee must provide the ~~underground storage tank general permit registration~~*operation certificate* number and the identification number for each UST to any person depositing a regulated substance into the ~~tank~~UST.~~; and~~

(~~b~~3) If a general permit registration certificate is revoked, suspended or terminated, ~~the~~an owner and permittee must provide written notice of the change in ~~general permit registration certificate~~ status to any person who previously deposited a regulated substance into the UST. ~~notified under subsection (2)(a) of this rule~~ A copy of the notice must be provided to the department.

~~(3) After December 22, 1998, no person may deposit or cause to have deposited a regulated substance into an underground storage tank unless the tank has been issued a general permit registration certificate by the Department for the operation of the tank.~~

~~(4)(a) After December 22, 1998 , sellers and distributors must maintain a written record of the general permit registration certificate number for each underground storage tank into which they deposit a regulated substance; and~~

~~(b) If requested by the Department, a seller or distributor must provide a written record, including the general permit registration certificate number, for tanks into which they have deposited a regulated substances during the last three years of record.~~

Stat. Auth.: ORS 466.706 - 466.~~995~~835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.760
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0152

Requirements for Distributors of Regulated Substances for Deposit into USTs

(1) In addition to the requirements of OAR 340-150-0150(1), a distributor must obtain and maintain a written record of *operation certificate* numbers for every UST facility and the identification number for each UST into which it delivers a regulated substance.

(2) Upon request by the department, a distributor must provide a written record of all USTs into which it deposited a regulated substance during the past three years, regardless of whether the UST is regulated by the department. The list must include, but is not limited to, customer name, delivery address, *operation certificate* number (as applicable), UST identification number and the type of regulated substance delivered.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746
Hist.: New

340-150-0156

Performance of UST Services by Owners or Permittees

(1) An owner and permittee may perform UST services on their own UST if the following conditions are met:

(a) Before starting any UST services, an owner and permittee must complete the appropriate UST supervisor examination administered by a national service with a passing score for the specific UST service they propose to provide; except

(b) If the UST system equipment for corrosion protection, release detection or tightness testing has been specifically designed by the manufacturer to allow testing to be performed by a tank owner, permittee or UST system operator, an owner and permittee is not required to complete the UST supervisor test for cathodic protection or tank tightness testing.

(2) Before conducting any UST services allowed under section (1) of this rule, an owner and permittee must:

(a) Notify the department of their intent to perform UST services; and

(b) Submit a copy of the examination documentation provided by the national service company to the department for any UST services requiring examination under subsection (1)(a) of this rule.

(3) In addition to the requirements of this division, an owner and permittee performing work on their own UST must comply with all applicable requirements for service providers and supervisors in accordance with OAR chapter 340, division 160, except the department will waive the requirement to obtain a license and pay license fees.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746
Hist.: New

340-150-0160

General Permit Requirements for Installing an UST System ~~Installation, Conditions and Requirements~~

(1) To maintain compliance with a general permit *installation certificate*, the permittee must:

(a) Install all UST system components and ancillary equipment in accordance with the following performance standards and requirements:

(A) For installation of USTs and underground piping, OAR 340-150-0300 and 340-150-0302;

(B) For spill and overfill protection, OAR 340-150-0310;

(C) For corrosion protection, OAR 340-150-0320 and 340-150-0325; and

(D) For release detection, OAR 340-150-0400 through 340-150-0470.

(b) Allow the department access to the UST facility and records (OAR 340-150-0135(2));

(c) Provide information to the department upon request and submit information regarding UST system or UST facility changes (OAR 340-150-0135(4) and (5));

(d) Comply with all installation notification and written report requirements (OAR 340-150-0300); and

(e) Not allow any person other than a service provider or supervisor licensed by the department to perform UST installation services, except as provided by OAR 340-150-0156.

(2) Notwithstanding OAR 340-150-0150(1), the department may, at its discretion, approve the deposit of a regulated substance into the UST before the issuance of an *operation certificate* on a case by case basis. Dispensing of a regulated substance from the UST is strictly prohibited. Following approval by the department, the permittee must:

(a) Provide the distributor of the regulated substance with the *installation certificate* number and UST identification number for each tank, including an explanation that the certificate number will be superseded by an *operation certificate* number (OAR 340-150-0150(2));

(b) Report, investigate and perform corrective action for any confirmed release that may occur after delivery of a regulated substance (OAR 340-150-0135(7)); and

(c) Provide proof of compliance with the financial responsibility requirements of OAR chapter 340, division 151 to the department before accepting delivery of petroleum (OAR 340-150-0135(3)).

(3) The UST system installation will be considered complete upon final review and approval by the department of the completed installation checklist and certification of compliance signed by the owner, permittee and service provider (i.e., the tank installer) as required by OAR 340-150-0300(8). An *operation certificate* will be issued to the permittee once the installation has been approved by the department.

(4) The *installation certificate* automatically expires upon issuance of an *operation certificate* (OAR 340-150-0102(2)).

~~(1) There shall be a general permit for the installation of an underground storage tank that is intended to hold a regulated substance in accordance with ORS 466.706 through 466.995 and OAR 340 - Division 150.~~

~~(2) The general conditions and requirements applicable to the installation of an UST intended to hold a regulated substance are:~~

~~(a) The definitions found in OAR 340-150-0010 and 40 CFR 280.12 as modified by OAR 340-150-0003 (3 through 8) are applicable;~~

~~(b) The proposed installation is for an UST as defined by OAR 340-150-0010 (20) and does not include exempt tanks as listed in OAR 340-150-0015.;~~

~~(c) The proposed tank will hold a regulated substance as defined by 40 CFR 280.12;~~

~~(d) No person other than the tank owner, property owner, permittee or a Service Provider and~~

~~Supervisor licensed in accordance with OAR 340 – Division 160 may perform tank installation work.~~

~~(e) Ageneral permit registration and annual compliance fee must be paid in accordance with ORS 466.785 and OAR 340-150-0070 and OAR 340-150-0110;~~

~~(f) After December 23, 1998, no regulated substance may be deposited into an UST until a general permit registration certificate for operating an UST has been issued and the seller or distributor has been informed of the general permit registration certificate number as required by OAR 340-150-0150(2);~~

~~(g) No permittee may install an UST that does not meet the conditions and requirements of this general permit and all other applicable rules and laws. The permittee has the duty to immediately take such actions as are necessary to bring the UST installation into compliance with the conditions and requirements of this general permit and all applicable rules and laws;~~

~~(h) For purposes of determining compliance with the general permit for installation conditions and requirements and applicable Oregon Revised Statutes and Oregon Administrative Rules, any employee or authorized representative of the Department may enter the site at any reasonable time to interview persons, inspect equipment and site conditions, collect samples, take still or video pictures, conduct an investigation, or review and copy records pursuant to ORS 466.805; and;~~

~~(i) A general permit registration certificate for installation may be revoked in accordance with ORS 466.775 and OAR 340-150-0090 if the Department finds:~~

~~(i) A material misrepresentation or false statement in the registration for a permit;~~

~~(ii) Failure to comply with the general permit conditions and requirements for installation, or~~

~~(iii) Violation of any applicable statute, rule or order.~~

~~(3) The notification conditions and requirements applicable to the installation of an UST holding a regulated substance are:~~

~~(a) A notice of intent to install must be submitted at least 30 days before installing an UST as required by 40 CFR 280.22 (a) as modified by OAR 340-150-0003 (15); and~~

~~(b) At least 3 working days before beginning installation, a notice of the confirmed date and time the installation will begin must be provided as required by 40 CFR 280.22 (h) as modified by OAR 340-150-0003 (17), unless otherwise waived by the Department.~~

~~(4) The technical conditions and requirements applicable to the installation of an UST holding a regulated substance are:~~

~~(a) To prevent releases due to structural failure or corrosion, the tank must meet the corrosion control performance standards in 40 CFR 280.20 (a) as modified by OAR 340-150-0003 (9, 10 and 11);~~

~~(b) The piping that routinely contains regulated substances and is in contact with the ground must meet the corrosion control performance standards in 40 CFR 280.20 (b) as modified by OAR 340-150-0003 (12 and 13);~~

~~(c) To prevent spilling and overfilling associated with product transfers to the UST systems, the system must meet the spill and overfill performance standards in 40 CFR 280.20 (c);~~

~~(d) To detect a release from any portion of the tank and the connected underground piping that routinely contains a regulated substance, the system must meet the release detection performance standards in 40 CFR 280.40 through 280.44 as modified by OAR 340-150-0003 (18, 19, 20, 43, 44 and 45); and~~

~~(e) All tanks and piping must be installed according to the installation performance standards~~

~~in 40 CFR 280.20 (d).~~

~~(5) The financial responsibility conditions and requirements applicable to the installation of an UST holding a regulated substance is that either the tank owner or permittee must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury or property damage by complying with the per occurrence and annual aggregate financial responsibility amounts found in 40 CFR 280.93 by using one, or a combination of mechanisms found in 40 CFR 280.94 through 280.107 before operating an UST.~~

~~(6) The recordkeeping and reporting conditions and requirements applicable to the installation of an UST holding a regulated substance are:~~

~~(a) The installation must be certified by submitting the documentation required by 40 CFR 280.20 (e) as modified by OAR 340-150-0003 (14) and 40 CFR 280.22 (e); and~~

~~(b) The tank owner or permittee must certify compliance with the financial responsibility requirements by submitting to the Department the documentation required by 40 CFR 280.110 (b);~~

~~(7) Any person who fails to comply with general permit conditions and requirements for installing an UST are subject to enforcement action pursuant to ORS 466.810, 466.835, 466.994 and 466.995 and OAR 340 Division 12.~~

~~[Note: Tank Owners, permittees and service providers can satisfy the reporting requirements of section (6) (a & b) of this section by submitting the Tank Installation Checklist, as built drawings, and completing and submitting Section VII of the general permit registration form. Copies of the checklist and Section VII of the registration form are available from the Department.]~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality]~~

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats Implemented: ORS 466.706, ~~466.710,~~ 466.740, 466.746, 466.750, 466.760, 466.765, 466.770, 466.775, 466.783, 466.785, ~~466.800,~~ 466.805, 466.810 ~~and~~& 466.815
Hist.: DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0163

General Permit Requirements for Operating an UST System~~, Conditions and Requirements~~

(1) An *operation certificate* will be issued to the permittee upon approval by the department of the UST installation and receipt of proof of compliance with the financial responsibility requirements of OAR chapter 340, division 151 for petroleum USTs. Delivery and deposit of a regulated substance is allowed under the *operation certificate*, once the permittee has provided the distributor with the *operation certificate* number and UST identification number for each tank.

(2) To maintain compliance with the general permit *operation certificate*, the permittee must operate and maintain the UST system in accordance with the following performance standards and requirements:

(a) Prevent spills and overfills (OAR 340-150-0310);

(b) Maintain corrosion protection, including testing, record keeping and reporting of test failures (OAR 340-150-0320 and 340-150-0325);

(c) Perform release detection for USTs and underground piping, including monitoring, testing and record keeping (OAR 340-150-0400 through 340-150-0470);

(d) Periodically inspect internally lined USTs and report to the department any inspection failures (OAR 340-150-0360);

(e) Report to the department any suspected release of regulated substances within 24 hours (OAR 340-150-0500) and investigate suspected releases within seven days (340-150-0510);

(f) Report to the department any spills, overfills or confirmed releases within 24 hours and investigate or take corrective action as required by:

(A) OAR 340-122-0205 through 340-122-0360 for petroleum USTs.

(B) OAR 340-122-0010 through 340-122-0115 for USTs containing nonpetroleum regulated substances, except that releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(g) Repair, modify or replace UST system components as necessary to correct, detect or prevent releases (OAR 340-150-0350 through 340-150-0354);

(h) Continuously maintain a financial responsibility mechanism for petroleum UST systems (OAR chapter 340, division 151);

(i) Allow the department access to the UST facility and records (OAR 340-150-0135(2));

(j) Provide information to the department upon request and submit information regarding UST system or UST facility changes (OAR 340-150-0135(4) and (5));

(k) Pay all annual compliance fee invoices by the specified due date or be subject to late fees (OAR 340-150-0110);

(l) Report to the department any change in ownership of the property, tank or designated permittee (OAR 340-150-0052). Failure to submit a request for modification is cause for automatic termination of the *operation certificate* (OAR 340-150-0102(1)); and

(m) Not allow any person other than a service provider or supervisor licensed by the department to perform UST services, except as provided by OAR 340-150-0156.

(3) The permittee must have a designated UST system operator and comply with the training requirements of OAR 340-150-0200 after the required date.

(4) The permittee may not operate an UST that does not meet the conditions and requirements of the *operation certificate* and all other applicable rules and statutes. The permittee must:

(a) Immediately take all actions necessary to bring the UST system into compliance; or

(b) Submit a 30-day notice of permanent closure to the department and immediately begin to manage the UST system in compliance with the conditions and requirements of a general permit for permanent closure in accordance with OAR 340-150-0166 or 340-150-0168.

(5) When an UST system will no longer be operated due to proposed change-in-service, temporary or permanent closure, the permittee must notify the department of the proposal in writing 30 days in advance of the change.

(6) The *operation certificate* for an UST will terminate upon issuance of a *temporary closure certificate* or when temporary closure, change-in-service or permanent closure begins (OAR 340-150-0102(3)).

~~(1)There shall be a general permit for the operation of an UST that holds a regulated substance in accordance with ORS 466.706 through 466.995 and OAR 340 - Division 150 and~~

~~ORS 465.200 through 465.455 and OAR 340-122-0010 through 340-122-0360.~~

~~(2) The general conditions and requirements applicable to operating an UST holding a regulated substance are:~~

~~(a) The definitions found in OAR 340-150-0010 and 40 CFR 280.12 as modified by OAR 340-150-0003 (3 through 8) are applicable;~~

~~(b) This general permit applies to the operation of an UST as defined by OAR 340-150-0010 (20) and does not include exempt tanks as listed in OAR 340-150-0015;~~

~~(c) This general permit applies to the operation of an UST that holds a regulated substance as defined by 40 CFR 280.12;~~

~~(d) No person other than the tank owner, property owner, permittee or a Service Provider and Supervisor licensed in accordance with OAR 340 – Division 160 may perform UST repair or upgrade work. If there is a release of petroleum, no person other than the tank owner, property owner, permittee or a Service Provider and Supervisor licensed in accordance with OAR 340 – Division 162 may perform soil matrix corrective action work;~~

~~(e) An annual general permit compliance fee must be paid in accordance with ORS 466.785 and OAR 340-150-0110;~~

~~(f) No permittee or other person may deposit a regulated substance into an UST that has not been issued a general permit registration certificate for operating an UST and for which the fuel seller or distributor has not been informed of the general permit registration certificate number as required by OAR 340-150-0150;~~

~~(g) The general permit registration certificate for an UST will terminate within 120 days if there is a change of ownership of the property, ownership of the tank, permittee or change in the nature of the activities and operations from those of record pursuant to OAR 340-150-0020 (3);~~

~~(h) No permittee may operate an UST that does not meet the conditions and requirements of this general permit and all other applicable rules and laws. The permittee has the duty to:~~

~~(i) immediately take such actions as are necessary to bring the UST into compliance with the conditions and requirements of this general permit and all applicable rules and laws, or~~

~~(ii) apply for a decommissioning general permit and immediately begin to manage the UST in compliance with conditions and requirements of the general permit for decommissioning in accordance with OAR 340-150-0166.~~

~~(i) For purposes of determining compliance with the general permit for operation conditions and requirements and applicable Oregon Revised Statutes and Oregon Administrative Rules, any employee or authorized representative of the Department may enter the site at any reasonable time to interview persons, inspect equipment and site conditions, collect samples, take still or video pictures, conduct an investigation, or review and copy records pursuant to ORS 466.805; and~~

~~(j) The general permit registration certificate for operation may be revoked as provided in ORS 466.775 and OAR 340-150-0090 if the Department finds:~~

~~(i) a material misrepresentation or false statement in the registration for a general permit for operation;~~

~~(ii) failure to comply with the general permit conditions and requirements for operation; or~~

~~(iii) violation of any applicable statute, rule or order.~~

~~(3) The notification and reporting conditions and applicable to operating an UST holding a regulated substance are:~~

~~(a) A notice of intent must be submitted at least 30 days prior to operating an UST as~~

required by 40 CFR 280.22 (a) as modified by OAR 340-150-0003 (15);

(b) A notice of intent to upgrade an existing UST system must be submitted at least 30 days prior to upgrading an UST as required by 40 CFR 280.21 (e) as modified by OAR 340-150-0003 (41) and 280.34 (5) as modified by OAR 340-150-0003(42);

(c) At least 3 working days before beginning an upgrade of an UST, a notice of the confirmed date and time the upgrade will begin must be submitted as required by 40 CFR 280.22 (h) as modified by OAR 340-150-0003 (17), unless otherwise waived by the Department;

(d) Any spills and overfills must be reported as required by 40 CFR 280.30 (b), 280.34 (a) (2) and 280.53 and OAR 340-122-0010 through 340-122-0360;

(e) Suspected releases of regulated substances from UST systems must be reported as required by 40 CFR 280.50. Suspected releases of petroleum must also be reported in accordance with OAR 340-122-0205 through 340-122-0360;

(f) Confirmed releases of regulated substances from UST systems must be reported as required by 40 CFR 280.61 as amended by OAR 340-150-0003 (23). Confirmed releases of petroleum must also be reported in accordance with OAR 340-122-0205 through 340-122-0360; and

(g) Within 10 days after commencement of voluntary or involuntary proceeding under Title 11 (Bankruptcy), U. S. Code or other incapacity of the owner, permittee or financial assurance provider, the Department must be notified as required by 40 CFR 280.114.

(4) The technical conditions and requirements applicable to operating an UST holding a regulated substance are:

(a) The UST system must be made of, or must be lined with, materials that are compatible with the regulated substance stored in the UST system as required by 40 CFR 280.32;

(b) Releases due to corrosion must be prevented for as long as a steel UST system with corrosion protection is used to store regulated substances as required by 40 CFR 280.31;

(c) Procedures must be in place that provide, calibrate, operate and maintain a method, or combination of methods, of leak detection that can detect a release from any portion of the tank and the connected underground piping that routinely contains a regulated substance as required by 40 CFR 280.40 through 280.44 as modified by OAR 340-150-0003 (18, 19, 20, 43, 44 and 45);

(d) Spilling and overfilling must be prevented as required by 40 CFR 280.30 (a);

(e) Any spills and overfills must be investigated and cleaned up as required by 40 CFR 280.30 (b) and 280.53 and OAR 340-122-0010 through 340-122-0360; and

(f) Repairs must prevent releases due to structural failure and corrosion for as long as the UST system is used to store regulated substances as required by 40 CFR 280.33.

(5) he recordkeeping and report submission conditions and requirements applicable to operating an UST holding a regulated substance are:

(a) Records must be maintained to demonstrate compliance with the corrosion protection requirements of section (4) (b) of this rule as required by 40 CFR 280.31 (d) and 280.34 (b) (2);

(b) Records must be maintained to demonstrate compliance with the release detection requirements of section (4) (c) of this rule as required by 40 CFR 280.34 (b) (4) and 280.45;

(c) Records of each repair must be maintained as required by 40 CFR 280.33 (f) and 280.34 (b) (3);

(d) A copy of corrective action reports prepared under OAR 340-122-0205 through 340-122-0360 must be maintained for 10 years after the first transfer of property as required by OAR 340-

~~122-0360 (2);~~

~~(e) Evidence must be maintained of all financial assurance mechanisms used to document compliance with financial responsibility as required by 40 CFR 280.111;~~

~~(f) In the case of a release, failure to obtain alternate coverage, commencement of voluntary or involuntary bankruptcy, suspension or revocation of the authority of a financial assurance provider, failure of a guarantor, other incapacity of a financial assurance provider, failure to meet the self-insurance test or cancellation or non-renewal by a financial assurance provider, the tank owner or permittee must submit current evidence of financial responsibility to the Department as required by 40 CFR 280.110 (a); and~~

~~(g) The records required by subsections (5) (a, b, c, d, e and f) of this section must be kept and made available, upon request, as required by 40 CFR 280.34 (c) and 40 CFR 280.110 and 280.111.~~

~~(6) The release response and corrective action conditions and requirements applicable to operating an UST holding a regulated substance are:~~

~~(a) Unless corrective action for a release of regulated substances is undertaken pursuant to ORS 465.200 to 465.455 and OAR 340-122-0010 through 340-122-0360 as required by 40 CFR 280.60 as modified by OAR 340-150-0003 (21 and 22), investigation of suspected releases and off-site impacts must begin immediately as required by 40 CFR 280.51 and 280.52;~~

~~(b) Release response and corrective action for petroleum releases must be undertaken in accordance with ORS 465.200 to 465.455 and OAR 340-122-0205 through 340-122-0360 as required by 40 CFR 280.60 as modified by OAR 340-150-0003 (21 and 22); and~~

~~(c) Release response and corrective action for hazardous substance releases must be undertaken in accordance with 40 CFR Part 280 Subpart F as modified by OAR 340-150-0003 (21 through 33) and ORS 465.200 to 465.455 and OAR 340-122-0010 through 340-122-0110.~~

~~(7) The financial responsibility conditions and requirements applicable to operating an UST holding a regulated substance are:~~

~~(a) Either the tank owner or permittee must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury or property damage by complying with the per occurrence and annual aggregate financial responsibility amounts found in 40 CFR 280.93 by using one, or a combination of mechanisms found in 40 CFR 280.94 through 280.107; and~~

~~(b) If at any time after a standby trust is funded, the full amount in the standby trust is reduced below the full amount of coverage required, the tank owner or permittee must replenish the standby trust or acquire another financial assurance mechanism as required by 40 CFR 280.115.~~

~~(8) Any person who fails to comply with general permit conditions and requirements for operating an UST is subject to enforcement action pursuant to ORS 465.900 and ORS 466.810, 466.820, 466.830, 466.835, 466.994 and 466.995 and OAR 340 Division 12.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality]~~

Stat. Auth.: ORS 466.706 - 466.~~995~~835, 466.994 & 466.995 ~~and 465.200 - 465.990~~

Stats Implemented: ORS ~~465.200, 465.210, 465.255, 465.260,~~ 466.706, ~~466.710,~~ 466.740, 466.746, 466.750, 466.760, 466.765, 466.770, 466.775, 466.783, 466.785, ~~466.800,~~ 466.805,

466.810 ~~and~~& 466.815
Hist.: DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0166

General Permit Requirements for ~~Decommissioning~~Closure of an UST System by ~~Temporary or Permanent Closure or~~ Change-in-Service, ~~Conditions and Requirements~~

(1) A permittee may continue to use an UST system to store a nonregulated substance without removal of the tank (i.e., change-in-service). An UST or any underground piping that has held a regulated substance may not be used under any circumstances to store water for consumption by humans or livestock or for the watering of feed crops.

(2) At least 30 days before beginning the change-in-service, the permittee must submit an application for a change-in-service general permit to the department. The department may allow a shorter notice period on a case by case basis. In addition to general information about the UST facility, tank ownership and UST system, the application must include:

(a) Information about the proposed use of the UST system;

(b) A written site assessment plan that meets the requirements of OAR 340-150-0180; and

(c) Any other information the department may require.

(3) After approval of the site assessment plan by the department and at least three working days before beginning the change-in-service, the permittee must notify the department of the confirmed date and time the change-in-service will begin to allow observation by the department.

(4) A general permit registration certificate will not be issued. The permittee must, however, comply with the requirements of the general permit for decommissioning by change-in-service. In addition to all other requirements of this rule, the permittee must:

(a) Report to the department any spills, overfills or confirmed releases within 24 hours and investigate or take corrective action as required by:

(A) OAR 340-122-0205 through 340-122-0360 for petroleum USTs.

(B) OAR 340-122-0010 through 340-122-0115 for USTs containing nonpetroleum regulated substances, except that releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(b) Continuously maintain a financial responsibility mechanism for petroleum UST systems required by OAR chapter 340, division 151, until the department has determined that the change-in-service is complete;

(c) Allow the department access to the UST facility and records (OAR 340-150-0135(2));

(d) Provide information to the department upon request and submit information regarding UST system or UST facility changes (OAR 340-150-0135(4) and (5));

(e) Pay all annual compliance fee invoices by the specified due date or be subject to late fees (OAR 340-150-0110); and

(f) Not allow any person other than a service provider and supervisor licensed by the department to perform UST services, except as provided by OAR 340-150-0156.

(5) The permittee must empty the UST system and clean it by removing all liquids and accumulated sludge. The removed materials must be recycled or disposed of in accordance with all federal, state and local requirements. One or more of the following cleaning and closure procedures must be used:

(a) American Petroleum Institute RP 1604, "Closure of Underground Petroleum Storage Tanks" (1996);

(b) American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks" (2001);

(c) American Petroleum Institute RP 1631 (2001), "Interior Lining of Underground Storage Tanks" (contains guidance information); or

(d) The National Institute for Occupational Safety and Health "Criteria for a Recommended Standard: Working in Confined Space" (Publication No. 80-106, December 1979) (guidance for conducting safe closure procedures at some hazardous substance USTs).

(6) Within 30 days of completion of the field work or other period approved by the department, the permittee must complete and submit a change-in-service checklist and site assessment report (OAR 340-150-0180(7)) signed by the owner, permittee and service provider to the department.

(7) The UST system change-in-service will be considered complete upon final review and approval by the department of the completed change-in-service checklist and site assessment report. The department will provide a letter to the permittee indicating that the change-in-service has been completed.

(8) The permittee must maintain records of change-in-service, including the site assessment report and associated documents, for three years after the change-in-service checklist and report have been approved by the department. If the UST facility is sold within this time period the permittee must provide these records to the new property owner (OAR 340-150-0140).

~~(1) There shall be a general permit for decommissioning an UST that is holding, or held, a regulated substance in accordance with ORS 466.706 through 466.995 and OAR 340 – Division 150 and ORS 465.200 through 465.455 and OAR 340 – Division 122.(2) The general conditions and requirements applicable to the decommissioning of an UST that is holding, or held , a regulated substance are:~~

~~(a) This general permit applies to the decommissioning of an UST as defined by OAR 340-150-0010 (20) and does not include exempt tanks as listed in OAR 340-150-0015;~~

~~(b) This general permit applies to the decommissioning of an UST that is holding, or held, a regulated substance as defined by 40 CFR 280.12;~~

~~(c) No person may deposit a regulated substance into an UST being managed under a general permit for decommissioning;~~

~~(d) No person other than the tank owner, property owner, permittee, or a Service Provider and Supervisor licensed pursuant to OAR 340 – Division 160 may perform UST decommissioning work. If there is a release of petroleum, no person other than the tank owner, property owner, permittee or a Service Provider and Supervisor licensed pursuant to OAR 340 – Division 162 may perform soil matrix corrective action work;~~

~~(e) Annual compliance fees must be paid in accordance with ORS 466.785 and OAR 340-150-0110;~~

~~(f) This general permit for decommissioning terminates within 120 days if there is a change of ownership of the property, ownership of the tank, permittee or change in the nature of the activities and operations from those of record as required by OAR 340-150-0020 (3);~~

~~(g) No permittee may perform a decommissioning of an UST unless such decommissioning meets the conditions and requirements of this general permit and all other applicable rules and laws. The permittee has the duty to immediately take such actions as are necessary to bring the UST decommissioning into compliance with the conditions and requirements of this general permit and all applicable rules and laws; and~~

(h) For purposes of determining compliance with the general permit for decommissioning conditions and requirements and applicable Oregon Revised Statutes and Oregon Administrative Rules, any employee or authorized representative of the Department may enter the site at any reasonable time to interview persons, inspect equipment and site conditions, collect samples, take still or video pictures, conduct an investigation, or review and copy records pursuant to ORS 466.805.

(3) The notification and reporting conditions and requirements applicable to the decommissioning of an UST that is holding, or held , a regulated substance are:

(a) At least 30 days before beginning permanent closure, the Department must be notified of the intent to permanently close as required by 40 CFR 280.71 (a) as modified by OAR 340-150-0003 (34);

(b) At least 3 working days before beginning permanent closure, notice of the confirmed date and time the permanent closure must be provided as required by 40 CFR 280.71 (a) as modified by OAR 340-150-0003 (34), unless otherwise waived by the Department;

(c) *If contaminated soils or water or free product* are discovered during permanent closure or change in service, the release of regulated substances from UST systems must be reported as required by 40 CFR 280.72 (b and c) as modified by OAR 340-150-0003 (38);

(d) At least 30 days before beginning a change in service, the Department must be notified of the intent to make the change in service as required by 40 CFR 280.71 (a) as modified by OAR 340-150-0003 (34); and

(e) Within 10 days after commencement of voluntary or involuntary proceeding under Title 11 (Bankruptcy), U. S. Code or other incapacity of the owner, permittee or financial assurance provider, the tank owner or permittee must notify the Department as required by 40 CFR 280.114.

(4) The technical conditions and requirements applicable to the decommissioning of an UST that is holding, or held ,a regulated substance are:

(a) When an UST system is temporarily closed for 3 months or less, operation and *maintenance of corrosion protection for steel tanks must continue*, release detection must be performed if the tank is not empty and compliance with release reporting and corrective action must occur, if a release is detected, as required by 40 CFR 280.70 (a);

(b) When an UST system is temporarily closed for 3 months or more but less than 12 months, in addition to complying with section (4) (a) of this general permit, all lines, pumps, manways and ancillary equipment, except the vent lines, must be capped and secured as required by 40 CFR 280.70 (b);

(c) Except as provided in section (4) (d) of this general permit, the UST system must be permanently closed before the 12 month period expires if it does not meet either the new performance standards in 40 CFR 280.20 as modified by OAR 340-150-0003 (9 through 14) or the upgrading requirements in 40 CFR 280. 21 as modified by OAR 340-150-0003 (41) as required by 40 CFR 280.70 (c);

(d) In order to manage an UST system in temporary closure for more than 12 months, a site assessment must be conducted in accordance with 40 CFR 280.72 as modified by OAR 340-150-0003 (38 and 39) and prior approval must be received from the Department as required by 40 CFR 280.70 (c);

(e) Permanent closure performance standards for the tank and tank residues must be met as required by 40 CFR 280.71 (b and d) as modified by OAR 340-150-0003 (35 and 37); and

~~(f) Before permanent closure is completed, the presence of a release must be measured for as required by 40 CFR 280.72 (a) as modified by OAR 340-150-0003 (39) and OAR 340-122-0205 through 340-122-0360.~~

~~(5) The recordkeeping and report submission conditions and requirements applicable to the decommissioning of an UST that is holding, or held, a regulated substance are:~~

~~(a) A completed decommissioning checklist and change-in-service report must be submitted to the Department within 30 days after tank closure as required by 40 CFR 280.71 (b) as modified by OAR 340-150-0003 (35);~~

~~(b) Records of temporary or permanent closure and change in service, including records of the site assessment, must be maintained as required by 40 CFR 280.74 and 280.34 (b)(5);~~

~~(c) A copy of corrective action reports prepared under OAR 340-122-0205 through 340-122-0360 must be maintained for 10 years after the first transfer of property as required by OAR 340-122-0360 (2);~~

~~(d) Evidence of all financial assurance mechanisms used to document compliance with financial responsibility must be maintained as required by 40 CFR 280.111;~~

~~(e) In the case of a release, failure to obtain alternate coverage, commencement of voluntary or involuntary bankruptcy, suspension or revocation of the authority of a financial assurance provider, failure of a guarantor, other incapacity of a financial assurance provider, failure to meet the self-insurance test or cancellation or non-renewal by a financial assurance provider, the tank owner or permittee must submit current evidence of financial responsibility as required by 40 CFR 280.110; and~~

~~(f) The records required by subsections (5) (a, b, c, d and e) of this section must be kept, and made available upon request, as required by 40 CFR 280.34 (c), 40 CFR 280.110 and 280.111 and OAR 340-122-0360.~~

~~(6) The change-in-service conditions and requirements applicable to an UST that is holding, or held ,a regulated substance are:~~

~~(a) In lieu of permanent closure, or bringing a temporarily closed tank back into service by meeting the new tank performance standards, an UST system may continue to be used to store a non-regulated substance if the change in service requirements are met pursuant to 40 CFR 280.71 (c) as modified by OAR 340-150-0003 (36); and~~

~~(b) Before a change-in-service is completed, the presence of a release must be measured for as required by 40 CFR 280.71 as modified by OAR 340-150-0003 (36) and 40 CFR 280.72 (a) as modified by OAR 340-150-0003 (39) and OAR 340-122-0010 through 340-122-0360.~~

~~(7) The release response and corrective action conditions and requirements applicable to an UST that is holding, or held, a regulated substance are:~~

~~(a) Release response and corrective action for petroleum releases discovered during permanent closure or a change-in-service must be undertaken pursuant to ORS 465.200 to 465.455 and OAR 340-122-0205 through 340-122-0360 as required by 40 CFR 280.60 as modified by OAR 340-15-0003 (21 and 22); and~~

~~(b) Release response and corrective action for hazardous substance releases discovered during permanent closure or change-in-service must be undertaken as required by 40 CFR Part 280 – Subpart F as modified by OAR 340-150-0003 (21 through 33) and ORS 465.200 to 465.455 and OAR 340-122-0010 through 340-122-0110.~~

~~(8) The financial responsibility conditions and requirements applicable to decommissioning an UST that is holding, or held , a regulated substance are:~~

~~(a) Until an UST system is permanently closed, or if corrective action is required, after the corrective action is completed, the tank owner or permittee must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury or property damage by complying with the per occurrence and annual aggregate financial responsibility amounts found in 40 CFR 280.93 by using one, or a combination of, mechanisms found in 40 CFR 280.94 through 280.107 as required by 40 CFR 280.113; and~~

~~(b) If at any time after a standby trust is funded, the full amount in the standby trust is reduced below the full amount of coverage required, the tank owner or permittee must replenish the standby trust or acquire another financial assurance mechanism as required by 40 CFR 280.115.~~

~~(9) Any person who fails to comply with general permit conditions and requirements for decommissioning an UST is subject the permittee to enforcement action pursuant to ORS 465.900 and ORS 466.810, 466.820, 466.830, 466.835, 466.994 and 466.995 and OAR 340 - Division 12.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule is available from the Department of Environmental Quality]~~

Stat. Auth.: ORS 466.706 - 466.~~995~~835, 466.994, 466.995 & 465.200 - 465.990
Stats Implemented: ORS 465.200, 465.210, 465.255, 465.260, 466.706, ~~466.710,~~ 466.740, 466.746, 466.750, 466.760, 466.765, 466.770, 466.775, 466.783, 466.785, ~~466.800,~~ 466.805, 466.810 ~~and~~ & 466.815
Hist.: DEQ 24-1998, f. & cert. ef. 11-2-98

340-150-0167
General Permit Requirements for Temporary Closure of an UST System

(1) The department will issue a *temporary closure certificate* to the permittee upon receipt of the required notice in accordance with OAR 340-150-0135(5)(d). This certificate will expire one year from the date of issuance. Thirty days before the expiration date, the permittee must submit one of the following to the department:

(a) An application for a change-in-service (OAR 340-150-0166) or permanent closure (340-150-0168) general permit;

(b) A written request to return the UST system to operational status; or

(c) A request for an extension of the expiration date of the *temporary closure certificate*.

(A) If the department approves the request for extension, the expiration period will be extended to a date determined by the department and a revised *temporary closure certificate* will be issued to the permittee.

(B) If the department denies the request, the permittee must decommission the UST system by permanent closure or change-in-service by the date established by the department. The department will notify the permittee of the denial in writing and include the reasons the request was denied.

(2) To maintain compliance with the general permit *temporary closure certificate*, the permittee must:

(a) Cap and secure all lines, pumps, access-ways and ancillary equipment, except the vent lines, if the UST system is temporarily closed for three months or more;

(b) Report suspected releases of regulated substances to the department within 24 hours (OAR 340-150-0500) and investigate suspected releases within seven days (340-150-0510);

(c) Report to the department any confirmed releases within 24 hours and investigate or take corrective action as required by:

(A) OAR 340-122-0205 through 340-122-0360 for petroleum USTs.

(B) OAR 340-122-0010 through 340-122-0115 for USTs containing nonpetroleum regulated substances, except that releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(d) Continuously maintain a financial responsibility mechanism for petroleum UST systems (OAR chapter 340, division 151);

(e) Allow the department access to the UST facility and records (OAR 340-150-0135(2));

(f) Provide information to the department upon request and submit information regarding UST system or UST facility changes (OAR 340-150-0135(4) and (5));

(g) Pay all annual compliance fee invoices by the specified due date or be subject to late fees (OAR 340-150-0110);

(h) Report to the department any change in ownership of property or tank or designated permittee (OAR 340-150-0052); and

(i) Not allow any person other than a service provider or supervisor licensed by the department to perform UST services, except as provided by OAR 340-150-0156.

(3) If the UST is empty of all regulated substances, the permittee must comply with the requirements of section (2) of this rule and must submit documentation to the department that the tank was emptied and that the removed regulated substance and sludge was recycled or disposed of in accordance with state, federal and local regulations. This documentation must be submitted with the notice provided to the department (OAR 340-150-0135(5)(d)) or within 30 days after the tank has been emptied.

(4) If the UST is not empty, the permittee must comply with the requirements of section (2) of this rule and perform release detection for USTs and underground piping, including monitoring, testing and record keeping in accordance with OAR 340-150-0400 through 340-150-0470.

(a) If the UST and underground piping are metal, the permittee must operate, test and maintain equipment and keep records for corrosion protection in accordance with OAR 340-150-0320 and 340-150-0325.

(b) If the UST is lined, the permittee must periodically inspect the lining in accordance with OAR 340-150-0360.

(c) When necessary to correct, detect or prevent releases, the permittee must repair, modify or replace UST system components (OAR 340-150-0350 through 340-150-0354).

(5) The permittee must maintain all records related to the temporary closure for three years after a change-in-service or permanent closure checklist and site assessment report have been approved by the department. If the UST facility is sold within this time period, the permittee must provide these records to the new property owner (OAR 340-150-0140).

Stat. Auth.: ORS 465.200 - 465.455 & ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 465.205, 465.400, 466.706, 466.740, 466.746, 466.750, 466.760, 466.765, 466.770, 466.775, 466.783, 466.785, 466.805, 466.810 & 466.815
Hist.: New

340-150-0168

General Permit Requirements for Decommissioning an UST System by Permanent Closure

(1) At least 30 days before beginning permanent closure, the permittee must submit an application for a permanent closure general permit to the department. The department may allow a shorter notice period on a case by case basis.

(2) If the permittee is proposing to permanently close the UST in-place and fill it with an inert material or if the UST contains a hazardous substance other than petroleum, the application must include a written site assessment plan that meets the requirements of OAR 340-150-0180. Permanent closure cannot begin until the department approves the site assessment plan.

(3) At least three working days before beginning permanent closure, the permittee must notify the department of the confirmed date and time permanent closure will begin to allow observation by the department.

(4) The permittee must empty the UST system and clean it by removing all liquids and accumulated sludge. The removed materials must be recycled or disposed of in accordance with all federal, state and local requirements. One or more of the following cleaning and closure procedures must be used:

(a) American Petroleum Institute RP 1604, "Closure of Underground Petroleum Storage Tanks" (1996);

(b) American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks" (2001);

(c) American Petroleum Institute RP 1631, "Interior Lining of Underground Storage Tanks" (2001) (contains guidance information); or

(d) The National Institute for Occupational Safety and Health (NIOSH) "Criteria for a Recommended Standard: Working in Confined Space" (Publication No. 80-106, December 1979) (guidance for conducting safe closure procedures at some hazardous substance USTs).

(5) The permittee must perform a site assessment that meets the requirements of OAR 340-150-0180 after the UST system and all ancillary equipment have been removed from the tank pit. If the UST is closed in-place, the site assessment must be conducted in accordance with the approved site assessment plan. If any equipment (i.e., tanks or piping) are to be disposed of instead of recycled, the permittee must first have the disposal location approved by the department.

(6) Within 30 days of completion of the field work or other period approved by the department, the permittee must complete and submit to the department a permanent closure checklist and site assessment report (OAR 340-150-0180) signed by the owner, permittee and service provider.

(7) A general permit registration certificate will not be issued to the permittee. However, the permittee must comply with the requirements of this general permit for permanent closure. In addition to all other requirements of this rule, the permittee must:

(a) Report to the department any spills or confirmed releases within 24 hours and investigate or take corrective action as required by:

(A) OAR 340-122-0205 through 340-122-0360 for petroleum USTs.

(B) OAR 340-122-0010 through 340-122-0115 for USTs containing nonpetroleum regulated substances, except that releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(b) Continuously maintain a financial responsibility mechanism for petroleum UST systems (OAR chapter 340, division 151);

(c) Allow the department access to the UST facility and records (OAR 340-150-0135(2));

(d) Provide information to the department upon request and submit information regarding UST system or UST facility changes (OAR 340-150-0135(4) and (5));

(e) Pay all annual compliance fee invoices by the specified due date or be subject to late fees (OAR 340-150-0110); and

(f) Not allow any person other than a service provider and supervisor licensed by the department to perform UST services, except as provided by OAR 340-150-0156.

(8) The UST system permanent closure will be considered complete upon approval by the department of the completed permanent closure checklist and site assessment report (OAR 340-150-0180). The department will provide a letter to the permittee indicating that the permanent closure has been completed.

(9) The permittee must maintain records of permanent closure, including the site assessment report and associated documents, for three years after the permanent closure checklist and report have been approved. If the UST facility is sold within this time period the permittee must provide these records to the new property owner (OAR 340-150-0140).

Stat. Auth.: ORS 465.200 - 465.455 & ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 465.205, 465.400, 466.706, 466.740, 466.746, 466.750, 466.760, 466.765, 466.770, 466.775, 466.783, 466.785, 466.805, 466.810 & 466.815
Hist.: New

340-150-0180
Site Assessment Requirements for Permanent Closure or Change-In-Service

(1) Before a change-in-service (OAR 340-150-0166) or permanent closure (340-150-0168) is completed, an owner and permittee must complete a site assessment to measure for the presence of a release where contamination is most likely to be present at the UST facility and submit results of the assessment to the department. In selecting sample types, sample locations and measurement methods, an owner and permittee must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to groundwater and other factors appropriate for identifying the presence of a release.

(2) For USTs containing petroleum, the owner and permittee must measure for the presence of a release by following the sampling and analytical procedures specified in OAR 340-122-0205 through 340-122-0360 and section (4) of this rule.

(3) For USTs containing regulated substances other than petroleum (including waste oil tanks), petroleum USTs to be closed in-place and USTs to undergo a change-in-service, an owner and permittee must submit a written site assessment plan (i.e., sampling plan) to the department and receive department approval before beginning permanent closure or change-in-service. The plan must include the following information:

(a) A site diagram, drawn to scale, that identifies:

(A) The location of all USTs and underground piping, dispenser islands, buildings and nearby properties;

(B) All surface water bodies within ¼ mile of the UST facility;

(C) Any potential conduits for spreading contamination that may exist (e.g., water or sewer

lines); and

(D) All proposed sample locations, clearly marked.

(b) A list of analytical procedures and sample collection methods to be used;

(c) General information about the sample collector and UST facility;

(d) The location of all proposed sampling points that meet the requirements of section (4) of this rule; and

(e) Any other information as specified by the department.

(4) Unless otherwise directed or approved by the department, an owner and permittee must meet the following requirements for sampling and analysis:

(a) Soil samples must be collected from the native soils located no more than two feet beneath the bottom of the tank pit in areas where contamination is most likely to be found;

(b) For in-place closure or change-in-service of an UST, a minimum of four soil samples must be collected, one each from beneath both ends of the tank and on each side;

(c) For the removal of a single tank, two to four soil samples must be collected as appropriate based on site conditions, including the condition of the removed tank;

(d) For the removal of multiple USTs from the same pit, in addition to subsection (c) of this section, one soil sample must be collected for each 100 square feet of area in the pit from areas where contamination is most likely to be found;

(e) For underground piping or where piping runs were located in the past:

(A) A minimum of two soil samples must be collected from the native soils directly beneath the areas where contamination is most likely to be found; and

(B) For piping runs of more than 20 feet in length, beginning at the dispensers, at least one additional soil sample must be collected at each 20-foot interval;

(f) For dispensers, at least one soil sample must be collected from the native soils directly beneath each dispenser;

(g) For UST components (e.g., underground piping or dispensers) located directly above an area to be excavated, the area must be visually assessed before excavation work is conducted and soil samples collected if contamination is observed or suspected;

(h) All soil samples must be analyzed by the Northwest Total petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID, DEQ, December 1996) specified in OAR 340-122-0218(1)(d)(A) to determine if a confirmed petroleum release exists; and

(i) If water is present in the UST pit, regardless of whether obvious contamination is present, the department must be notified within 24 hours of discovery.

(5) The guidance contained in *Appendix K* of this division may be used to comply with sections (3) and (4) of this rule.

(6) An owner and permittee must report a confirmed release to the department within 24 hours of observance or receipt of analytical results. Upon discovery of a release, an owner and permittee must:

(a) Immediately initiate corrective action. An owner and permittee may request and the department may approve a specific time schedule to initiate corrective action on a case by case basis depending on the severity of the contamination or other relevant factors; and

(b) Follow the requirements of OAR 340-122-0225 for "Initial Abatement and Site Check" and 340-122-0235 for "Free Product Removal" as appropriate.

(7) An owner and permittee must submit a written report of the results of the site assessment to the department within 30 days of completion of the field work or other period approved by the

department.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0200
Training Requirements for UST System Operators and Emergency Response Information

(1) The owner and permittee of each UST facility issued an *operation certificate* by the department that dispenses a regulated substance from an UST to a motor vehicle or container must employ trained personnel who can properly operate and maintain the UST system and must provide emergency response information to any person that dispenses a regulated substance from the UST system.

(2) UST system operator. An owner and permittee must require that the designated UST system operator complete training that meets the following requirements:

(a) An individual designated as the UST system operator before February 1, 2004, must complete one of the training options in section (4) of this rule by that date.

(b) An individual designated as the UST system operator after February 1, 2004, must complete training within 90 days of designation, unless the individual has previously completed a training option and a copy of the training documentation is maintained at the UST facility.

(c) The department may extend the initial training compliance date beyond February 1, 2004, if the department determines that there are an insufficient number of training options available.

(3) Elements of required training.

(a) All training options must include the essential training elements listed in *Appendix L* of this division and as further described in an UST system operator training manual developed by the department; and

(b) The department may periodically audit or review any of the training options to verify that the training follows the department's training manual.

(4) Training options. The UST system operator must either:

(a) Attend a training session sponsored by a training vendor listed by the department. A training vendor is a person, company or organization listed by the department that has agreed to present UST system operator training using the training manual developed by the department;

(b) Successfully pass an examination designed for UST system operators offered by a national service and approved by the department;

(c) Complete an internet or computer software training or examination program approved by the department; or

(d) Complete any other equivalent training method approved by the department.

(5) Documentation and record keeping. An owner and permittee must submit verification of UST system operator training completion to the department by March 1, 2004.

(a) Verification may include a copy of the certificate of training completion signed by the UST system operator along with any examination results or a list of persons who attend a training session as submitted by the training vendor. The list must include: the UST system operator's name and signature; the date training was completed; and the name, site address and the department's UST facility identification number for the UST facility that the UST system operator serves. The list must also include a confirmation statement by the training vendor that

the training session was conducted using the department's UST system operator training manual.

(b) An owner and permittee must permanently retain each certificate of completion signed by the UST system operator on file at the UST facility, including a copy of any examination results. If training records are not kept at the UST facility, an owner and permittee must have the records available for review by the department upon request.

(6) Exemption or deferral from training. The department may exempt an owner and permittee from the training requirements for an UST system operator if an owner and permittee demonstrates to the department's satisfaction that a hardship condition exists. Additionally, the department may defer the compliance date for UST system operator training to an alternate date on a case-by-case basis for an owner and permittee who meets the requirements of this section.

(a) To be considered for an UST system operator hardship exemption or deferral, an owner and permittee must demonstrate that the following conditions exist:

(A) The owner and permittee are the same person and owns only one UST facility;

(B) The permittee is both the UST system operator and the only person regularly on site who can operate the UST system equipment; and

(C) The permittee has been unable to locate another person to operate the UST facility for the permittee for a scheduled training session date or for the amount of time needed to complete a training option.

(b) The permittee must submit a written request for a hardship exemption or deferral to the department. The request must include the following information:

(A) A brief description of how the permittee meets the requirements under subsection (a) of this section; and

(B) A list of available training options and other possible solutions explored by the permittee together with an explanation why none of these alternatives are feasible.

(c) The department will review exemption and deferral requests within 60 days of receipt of the completed request. Upon approval by the department, the permittee must review the training manual developed by the department and sign an affidavit stating that the permittee has read and understands the UST operation and maintenance requirements. The permittee must submit the affidavit to the department by March 1, 2004, or other date designated by the department.

(d) The permittee must keep a copy of all records pertaining to approval of a hardship exemption or deferral, including the signed affidavit; records must be kept permanently at the UST facility. If records are not kept at the UST facility, the permittee must have the records available for review by the department upon request; and

(e) UST facilities where the permittee has been granted a hardship exemption will be placed on a priority list for technical assistance and inspection by the department.

(7) Emergency response information. In addition to the requirements of sections (1) through (6) of this rule, an owner and permittee must provide information about emergency response procedures, including, but not limited to, procedures for overfill protection during delivery of regulated substances, operation of emergency shut off system and alarm response, release reporting and any site specific emergency procedures. The information must include any emergency response requirements made necessary by site specific human health and safety issues or the presence of environmentally sensitive areas, such as nearby streams, wetlands or potential conduits for spreading contamination. The emergency response information must be provided by:

(a) Written instructions that are provided to any person who dispenses a regulated substance at the UST facility;

(b) Signage posted in prominent areas of the UST facility that is easily visible to any person dispensing a regulated substance; or

(c) A combination of both subsections (a) and (b) of this section.

Stat. Auth.: ORS 466.706 - 466.835; 466.994 & 466.995
Stats. Implemented: ORS 466.743 & 466.746
Hist.: New

340-150-0250
Expedited Enforcement Process

(1) Nothing in this rule shall affect the department's use of OAR chapter 340, division 12 "Enforcement Procedures and Civil Penalties" for compliance with the UST regulations, except as specifically noted. The field penalty amounts assigned in section (4) of this rule are only applicable to actions taken by the department under this rule. Nothing in this rule requires the department to assess any particular penalty amount for any particular violation.

(2) An owner and permittee is excluded from participation in the expedited enforcement process if:

(a) The total field penalty amount for all violations identified during a single inspection or file review would exceed $300;

(b) The department documents one or more class I violation, as defined in OAR 340-012-0067(1);

(c) The department has issued a field penalty or civil penalty to the owner or permittee for the same violation at the same UST facility within the previous three years; or

(d) At its discretion, the department determines that an owner and permittee is not eligible for the expedited process. This determination will be done on a case by case basis. [One example may be when an owner and permittee of multiple UST facilities has received multiple field citations for the same or similar violations, but has not made corrections at all facilities.]

(3) For any owner and permittee with documented violations or conditions that exclude participation in the expedited enforcement process of this rule, the department will take appropriate enforcement action in accordance with OAR chapter 340, division 12.

(4) Each class II UST violation listed in OAR 340-012-0067(2) is assigned a field penalty amount of $50, except for class II violations meeting the following circumstances, which are assigned a field penalty amount of $75:

(a) Failure to conform to performance standards and requirements and third party evaluation and approval for UST system release detection methods by using a release detection method that does not have third party evaluation and approval;

(b) Use of a method or methods of release detection as the primary release detection method after the period allowed for such use by rule has expired;

(c) Failure to conduct required release detection monitoring and testing activities for USTs or piping by not monitoring or testing for the presence of a release every 30 days or daily as required;

(d) Failure to conduct the required release detection monitoring and testing activities for USTs by not performing a tank tightness test in accordance with required schedule for a release detection method or as necessary for confirmation of a suspected release;

(e) Failure to conduct required release detection monitoring and testing activities for USTs or

piping by failing to ensure that groundwater and vapor monitoring release detection systems are functioning properly to detect a release from all portions of the system that contain a regulated substance;

(f) Failure to conform to performance standards and requirements and third party evaluation and approval for UST system release detection methods or equipment by using the manual tank gauging release detection method for an UST larger than 2,000 gallons capacity;

(g) Failure to conform to performance standards and requirements and third party evaluation and approval for UST system release detection methods or equipment by not having a line leak detection device that is operational or able to detect a leak in underground piping;

(h) Failure to conduct required corrosion protection monitoring and testing activities for USTs or piping by not conducting an inspection after the first six months of operation or subsequent tests according to schedule;

(i) Failure to conduct required corrosion protection monitoring and testing activities for USTs or piping by not conducting an initial tank integrity inspection or periodic internal lining inspections;

(j) Failure to have an operating certificate for all compartments or chambers of a multichambered or multicompartment UST when at least one compartment or chamber has an operating certificate;

(k) Failure to apply for a modified operation certificate when a change in tank ownership, permittee or property owner has occurred;

(l) Failure to provide complete documentation to demonstrate financial responsibility coverage; and

(m) Failure to have a trained UST system operator for an UST facility by February 1, 2004.

(5) Each class III violation listed in OAR 340-012-0067(3) is assigned a field penalty amount of $50 when an owner or permittee has received prior notice of the violation through a field citation and has not corrected the violation. Any violation of UST rules that also violates a final order incorporated into a field citation may be excluded from the expedited process at the department's discretion.

(6) An owner or permittee issued a field citation has 30 calendar days from the date of issuance to submit payment for the total field penalty amount. Payment is deemed submitted when received by the department. A check or money order in the amount of the field penalty must be submitted to: Department of Environmental Quality - Business Office, 811 SW Sixth Avenue, Portland, OR 97204. Participation in the expedited enforcement process is voluntary -- by submitting payment, the owner and permittee agree to accept the field citation as the final order by the commission and to waive any right to an appeal or any other judicial review of the determination of violation, compliance schedule or assessment of the field penalty in the field citation.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.835
Hist.: New

340-150-0300
Installation of USTs and Piping

(1) An owner and permittee must have an *installation certificate* issued by the department

before beginning installation of the UST (OAR 340-150-0160). The requirements and procedures for applying for an UST *installation certificate* are described in OAR 340-150-0020.

(2) An owner and permittee must install USTs and underground piping in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer's instructions. The codes and standards listed in *Appendix A* of this division may be used to comply with the requirements of this rule.

(3) An owner and permittee must install USTs and underground piping that are made of or lined with materials that are compatible with the substance stored in the UST system. An owner and permittee storing alcohol blends may use the codes listed in *Appendix B* of this division to comply with the requirements of this section of the rule.

(4) An owner and permittee may only install UST systems that meet the following performance standards:

(a) Spill and overfill prevention equipment and requirements (OAR 340-150-0310);

(b) Corrosion protection performance standards for USTs and underground piping (OAR 340-150-0320); and

(c) Release detection performance standards (OAR 340-150-0400 through 340-150-0470).

(5) The person installing the UST system must be licensed by the department to perform UST services (OAR chapter 340, division 160), except as provided by OAR 340-150-0156.

(6) At least 30 days before beginning the UST system installation, an owner and permittee must provide notice to the department on an application provided by the department. The department may allow a shorter notice period on a case by case basis.

(7) At least three working days before beginning UST installation, an owner and permittee must notify the department of the confirmed date and time the installation will begin. The department may request additional prior notifications of the start date and time of specific installation or related testing activities.

(8) An owner and permittee must complete an installation checklist on a form provided by the department and submit the checklist to the department before an *installation certificate* can be issued. The checklist requires information about installation procedures and standards used, including any observations made by a service provider during the installation of the UST system. The checklist must include:

(a) A certification of compliance signed by the owner, permittee and service provider (i.e., the tank installer) that certifies the UST system was installed in accordance with required methods and standards and in compliance with requirements for cathodic protection, release detection and spill and overfill protection and that the owner and permittee will meet requirements for financial responsibility;

(b) One copy of the as-built drawing for the UST facility that includes the locations of all USTs, underground piping and ancillary equipment;

(c) A list of major UST components installed;

(d) All manufacturer specifications, completed checklist or other installation documents for USTs and components, including warranties;

(e) A copy of third party evaluation approval summaries, as applicable to any release detection equipment or methods;

(f) A copy of approval documents (sign-off or pressure test results) provided by the state fire marshal or local fire department, if available; and

(g) Photographs (or color copies of photographs) of key phases of the installation, including,

but not limited to, major equipment (i.e., USTs and underground piping) and materials to be used in the installation, the excavation area before placement of USTs or underground piping, installation area after the placement of USTs and underground piping, but before backfilling and any other items of interest that document the installation process. Videos, negatives, floppy disks, undeveloped film, etc. are not acceptable substitutes for standard color photographs.

(9) An *operation certificate* will be issued to the permittee in accordance with OAR 340-150-0163(1) after department review and approval of the completed installation checklist and all required documentation.

[Note 1: USTs and underground piping must be installed to meet all requirements of the Oregon Uniform Fire Code pertaining to USTs in accordance with OAR chapter 837, division 40 "Fire and Life Safety Regulations" (Department of Oregon State Police, Office of State Fire Marshal).]

[Note 2: *Appendix J* of this division includes a list of additional guidance documents that owners and permittees may find useful.]

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0302
Installation of Used USTs

(1) An owner and permittee may not reuse an UST that has been installed in the ground and subsequently removed unless the UST was decommissioned in accordance with all requirements of OAR 340-150-0168.

(2) The original manufacturer must certify that the used UST meets the UST performance requirements of OAR 340-150-0300. If the original manufacturer is not available (e.g., no longer in business, unknown, etc.) another manufacturer of the same tank brand or type must certify in writing that the UST meets the current UST performance requirements.

(3) Before reinstalling the UST, an owner and permittee must have the manufacturer's recertification documented in writing and available to the department upon request.

(4) An owner and permittee must install the UST in accordance with OAR 340-150-0300 and follow all recommendations made by the manufacturer for reinstalling the used UST.

(5) An owner and permittee must submit documents showing compliance with all manufacturer recommendations including, but not limited to, warranty cards or manufacturers' checklists to the department as an attachment to the installation checklist required by OAR 340-150-0300(8)(d).

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0310

Spill and Overfill Prevention Equipment and Requirements

(1) An owner and permittee must install, operate and maintain spill prevention equipment, such as a spill catchment basin or spill bucket, that will prevent the release of a regulated substance to the environment when the transfer hose is detached from the fill pipe.

(2) An owner and permittee must install, operate and maintain overfill prevention equipment and follow fill procedures that prevent any of the fittings located on top of the UST from being exposed to a regulated substance due to overfilling, and:

(a) Automatically shuts off flow into the UST when the UST is no more than 95 percent full; or

(b) Alerts the person depositing the regulated substance into the UST when the UST is no more than 90 percent full by restricting the flow into the tank or by triggering a high level alarm.

(3) For all UST systems installed or overfill equipment replaced on or after March 1, 2003, an owner and permittee must be able to provide visual verification that the overfill equipment functions as required by section (2) of this rule. For overfill equipment installed before March 1, 2003, an owner and permittee must be able to demonstrate to the department that the equipment is functions properly by any method deemed acceptable by the department.

(4) In addition to the overfill requirements of section (2) of this rule, an owner and permittee must:

(a) Measure the volume of regulated substance in each UST to confirm that the volume available is greater than the volume of the regulated substance to be deposited into the UST before each deposit is made; and

(b) Develop and implement procedures to ensure that each deposit of a regulated substance into the UST is monitored constantly to prevent overfilling and spilling.

(5) An owner and permittee may use the codes and procedures listed in *Appendix C* of this division to comply with the requirements of this rule.

(6) Spill and overfill prevention equipment is not required if the UST system is filled by deposits of a regulated substance of no more than 25 gallons at one time (a waste oil tank may be one example).

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0320
Corrosion Protection Performance Standards for USTs and Piping

(1) An owner and permittee must protect all USTs (whether of single wall or multiwall construction) and underground piping that routinely contains a regulated substance from corrosion by one of the methods listed in sections (2) through (4) of this rule.

(2) For USTs and underground piping constructed of fiberglass-reinforced plastic or other nonmetallic materials, an owner and permittee must use one of the codes and standards listed in *Appendices D1-USTs* and *D2-Piping* of this division to comply with this section of the rule.

(3) An owner and permittee must provide cathodic protection for USTs and underground piping constructed of steel or other metal to prevent corrosion by using the codes and standards listed in *Appendices E1-USTs* and *E2-Piping* of this division to comply with this section of the rule. In addition, an owner and permittee must comply with subsections (a) through (c) and either

(d) *or* (e) of this section:

(a) The UST and underground piping must be coated with a suitable dielectric material;

(b) Field-installed cathodic protection systems must be designed by a corrosion expert;

(c) Impressed current systems must be designed to allow the testing of current operating status as required by OAR 340-150-0325(3); and

(d) A permanent cathodic protection test station must be installed. The test station:

(A) Can be separate or combined with an existing box and must be located near the protected structure (e.g., UST, piping, etc.) and away from an anode;

(B) Must provide, at a minimum, an electrical connection to the structure and access for placing a reference cell in contact with the soil or backfill; and

(C) When located below the surface of the ground, the test station design must prevent run off of surface water into the soil; or

(e) If a permanent cathodic protection test station is not installed, an owner and permittee must have a written cathodic protection test procedure that has been developed in accordance with a nationally accepted code of practice. The written test procedure must:

(A) Meet each of the minimum requirements established by subsection (d) of this section;

(B) Contain sufficient detail to ensure that initial test conditions can be replicated during each test (i.e., electrical connections are made at the same points and the reference electrode contacts the soil at the same location);

(C) Be followed for all cathodic protection tests at the UST facility; and

(D) Be provided to the department upon request.

(4) For USTs constructed of a steel-fiberglass reinforced plastic composite, an owner and permittee must use one of the codes and standards listed in *Appendix F* of this division to comply with this section of the rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0325
Operation and Maintenance of Corrosion Protection

(1) An owner and permittee of an UST system described in OAR 340-150-0320 must operate and maintain the corrosion protection system to provide continuous protection to the metal components of any portion of the UST and underground piping that routinely contains a regulated substance.

(2) An owner and permittee must have the corrosion protection system inspected and tested for proper operation by a qualified cathodic protection tester licensed by the department (OAR chapter 340, division 160), except as provided by OAR 340-150-0156, in accordance with the following schedule:

(a) Within six months of installation; and

(b) At least once every three years thereafter.

(3) An owner and permittee of an UST system with impressed current cathodic protection systems must have the system inspected every 60 days to ensure the equipment is running properly.

(4) An owner and permittee must report all corrosion protection test failures to the

department within 24 hours and submit a copy of the test results as requested by the department.

(5) An owner and permittee must conduct any repair, modification and replacement of a corrosion protection system or equipment in accordance with OAR 340-150-0350 through 340-150-0354.

(6) An owner and permittee must maintain records of the operation of the cathodic protection system to demonstrate compliance with the performance standards of this rule, including:

(a) The results of the last three impressed current cathodic protection tests required in section (3) of this rule; and

(b) The results of the last two cathodic protection inspections required in section (2) of this rule.

(7) The testing criteria used to determine that corrosion protection is effective must be performed in accordance with a code of practice developed by a nationally recognized association. An owner and permittee may use the codes listed in *Appendix G* of this division to comply with the requirements of this rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0350
UST System Repairs

(1) An owner and permittee of an UST system requiring repair must effect the repair such that the repair will prevent and detect releases due to structural failure or corrosion as long as the UST system is used to store a regulated substance.

(2) Metal pipe sections and fittings that have released a regulated substance as a result of corrosion or other damage cannot be repaired and must be replaced as a modification to an UST system in accordance with OAR 340-150-0352(4).

(3) Repair methods. An owner and permittee must repair UST system components according to the manufacturer's specifications and perform repairs in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory. The codes and standards listed in *Appendix H* of this division may be used to comply with this section. A manufacturer's authorized representative may make repairs to fiberglass or other nonmetallic USTs.

(4) Lined tanks. An owner and permittee of an UST that has been previously repaired or upgraded using the interior lining method may repair the UST by restoring or adding additional lining to the UST if the metal portion of the UST has been determined to be structurally sound by use of the integrity assessment (inspection) method by American Petroleum Institute Publication 1631 (2001), "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks". An owner and permittee must refer to OAR 340-150-0352 and 340-150-0360 for additional requirements for internally lined tanks. An owner and permittee must permanently decommission an UST if the integrity assessment determines that the UST is no longer structurally sound.

(5) Tanks. Before operating a repaired UST, an owner and permittee must:

(a) Have the UST tightness tested after completion of the repair and report to the department any test failures (OAR 340-150-0445); and

(b) For all repaired tanks except those repaired by lining, obtain written documentation that the original manufacturer has recertified the repaired UST as meeting current UST performance requirements (OAR 340-150-0300). If the original manufacturer is not available (e.g., no longer in business, unknown, etc.) another manufacturer of the same tank brand or type must certify in writing that the UST meets the current UST performance requirements.

(6) Piping. Before operating repaired piping, an owner and permittee must have the underground piping tightness tested after completion of the repair and report to the department any test failure (OAR 340-150-0410).

(7) Corrosion protection. An owner and permittee must have a cathodic protection system tested within six months following a repair to ensure proper operation and report to the department any test failure (OAR 340-150-0325).

(8) Spill and overfill. An owner and permittee must repair spill and overfill equipment when necessary; following repair, the spill and overfill equipment must meet the requirements of OAR 340-150-0310.

(9) Record keeping. An owner and permittee must maintain records that demonstrate compliance with the requirements of this rule for the remaining operating life of the UST system. Records must include information such as a description of the work, date performed, name and address of the company that performed the work, equipment model number (as appropriate), test results and any other related data. An owner and permittee must make all repair records available for review by the department upon request.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0352
UST System Modifications and Additions

(1) An owner and permittee must follow the requirements of this rule when making UST system modifications. For any other modifications not specifically listed, an owner and permittee must follow sections (5) through (7) of this rule.

(2) An owner and permittee of a metal UST previously protected with cathodic protection may modify the UST by the addition of internal lining if all of the following requirements are met:

(a) Before the addition of a lining, the integrity of the tank is assessed by a method that has been third party evaluated and approved on a national level (e.g., the method is on a list of approved alternative integrity assessment methods published by the Environmental Protection Agency);

(b) The lining is installed in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory; and

(c) The modifications comply with all requirements of OAR 340-150-0360(2) for internally lined tanks.

(3) An owner and permittee of an UST that has been internally lined may modify the UST by the addition of corrosion protection if all of the following requirements are met:

(a) Before the addition of corrosion protection, the integrity of the UST is assessed using the method by American Petroleum Institute Publication 1631 (2001), "Recommended Practice for

the Interior Lining of Existing Steel Underground Storage Tanks" to ensure that the tank is structurally sound and free of corrosion holes and that the lining is still performing according to manufacturer requirements;

(b) The corrosion protection system meets the performance standards of OAR 340-150-0320(3); and

(c) The modifications comply with all requirements of OAR 340-150-0360(2) for internally lined USTs.

(4) For modification of an UST system by the addition of new piping or replacement of damaged piping, an owner and permittee must comply with the installation requirements for new UST systems (OAR 340-150-0300) and this rule.

(5) An owner and permittee may use the codes and standards listed in *Appendix H* of this division to comply with this rule.

(6) An owner and permittee must notify the department of their intent to modify an UST system at least 30 days before any modification work is scheduled to start by submitting an application for UST system modification to the department.

(a) At least three working days before beginning the modification, an owner or permittee must notify the department of the confirmed date and time the modification will begin to allow observation by the department.

(b) The owner or permittee must submit a completed UST system modification checklist to the department within 30 days after completion of the modification.

(7) An owner and permittee must maintain records that demonstrate compliance with the requirements of this rule for the remaining operating life of the UST system. Records must include a description of the work, date performed, name and address of the company that performed the work, equipment model number (as appropriate), test results, modification application and checklist and any other related data. An owner and permittee must make all records for UST system modifications and additions available for review by the department upon request.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0354
UST System Replacements

(1) An owner and permittee must replace any part of an UST system as necessary for the UST system to meet the following performance standards:

(a) Spill and overfill protection (OAR 340-150-0310);

(b) Corrosion protection (OAR 340-150-0320 and 340-150-0325); and

(c) Release detection (OAR 340-150-0400 through 340-150-0470).

(2) For the purpose of these rules, the replacement of metal pipe sections and fittings that have released a regulated substance as a result of corrosion or other damage is considered a modification and the owner and permittee must comply with OAR 340-150-0352(4) and 340-150-0300 instead of this rule.

(3) An owner and permittee must maintain records that demonstrate compliance with the requirements of this rule for the remaining operating life of the UST system. Records must

include information such as a description of the work, date performed, name and address of the company that performed the work, equipment model number (as appropriate), test results and any other related data. An owner and permittee must make all records for UST system replacements available for review by the department upon request.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0360
Requirements for Internally Lined USTs

(1) Internally lined USTs *without* corrosion protection. An owner and permittee of an internally lined UST that does not have corrosion protection must have the UST internally inspected or assessed in accordance with a method that has been evaluated and approved by a third party to ensure the tank is structurally sound and the lining is still performing in accordance with all original design specifications. An owner and permittee must have the internal lining inspections or assessments conducted:

(a) Within ten years after lining; and

(b) Every five years thereafter.

(2) Internally lined USTs *with* corrosion protection. An owner and permittee of an internally lined UST that has corrosion protection must conduct internal lining inspections or assessments of the UST as required by section (1) of this rule. However, internal inspections are not required if the owner and permittee meet each of the following conditions:

(a) The integrity of the UST is inspected or assessed before the addition of corrosion protection; and

(b) Written documentation of the inspection results and the internal inspection or assessment is provided to the department that demonstrate the work was conducted in accordance with a code of practice developed by a nationally recognized association, an independent testing laboratory or by a method that has been third party evaluated and approved. If the original integrity inspection or assessment was not conducted, documentation is not available or the documentation is not sufficient as determined by the department, an owner and permittee must complete at least one internal inspection of the tank lining using the method by American Petroleum Institute Publication 1631 (2001), "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks".

(3) The owner and permittee must permanently decommission an UST system if any internal inspection determines that the UST is no longer structurally sound.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0400
General Release Detection Requirements for Petroleum UST Systems

(1) An owner and permittee of petroleum UST systems must provide a method of release detection that:

(a) Can detect a release from any portion of the UST and the underground piping that routinely contains a regulated substance;

(b) Is an approved leak detection method or equipment as listed by a national organization (e.g., the National Work Group on Leak Detection);

(c) Is installed, calibrated, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition;

(d) Meets the performance requirements of this rule and the requirements of 340-150-0410 for underground piping, including any manufacturer performance claims (with the method for determining compliance with performance claims described in writing by the equipment manufacturer or installer); and

(e) Is capable of detecting the leak rate or quantity specified for that method in OAR 340-150-0450 through 340-150-0470 or 340-150-0410 for piping, with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent. Release detection methods permanently installed before December 22, 1990, are exempt from the requirements of this subsection.

(2) An owner and permittee must select an appropriate primary release detection method for the UST system (OAR 340-150-0420 through 340-150-0470). More than one method may be in use at an UST facility, but only one can be the primary method. The primary method must be reported to the department when an UST is installed or during an inspection by the department. The primary release detection method cannot be switched from month to month depending on which method passes daily or monthly monitoring requirements. The primary method of release detection can be changed to another method as necessary as part of a repair, modification or replacement or if the period of use for a method has expired by rule.

(3) When a release detection method indicates a release may have occurred, an owner and permittee must notify the department of a suspected release in accordance with OAR 340-150-0500.

(4) An owner and permittee must maintain records demonstrating compliance with all applicable requirements of this rule and retain the following records for as long as the release detection equipment is in use:

(a) All written performance claims pertaining to any release detection system used and the third party evaluation and approval;

(b) The results of any sampling, equipment testing or monitoring; and

(c) Written documentation of all calibration, maintenance and repair of release detection equipment permanently located on site, including any schedules of required calibration and maintenance provided by the release detection equipment manufacturer.

(5) An owner and permittee must keep release detection records either:

(a) At the UST facility and immediately available for inspection by the department; or

(b) At a readily available alternative site and provide the records for inspection by the department upon request.

(6) An owner and permittee may use the codes and standards listed in *Appendix I* of this division to comply with this rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995

Stats. Implemented: ORS 466.746 & 466.765

Hist.: New

340-150-0410

Release Detection Requirements and Methods for Underground Piping

(1) For underground piping that routinely contains a regulated substance, an owner and permittee of a petroleum UST system must provide release detection which meets the requirements of this rule.

(2) Pressurized piping. For underground piping that conveys regulated substances under pressure, an owner and permittee must insure that the piping is equipped with an automatic line leak detector that alerts an owner and permittee to the presence of a leak by restricting or shutting off the flow of regulated substances through underground piping or by triggering an audible or visual alarm. Interstitial monitoring sensor systems or stand alone "sump" sensors are not an acceptable alternative for a line leak detector. In addition,

(a) The line leak detector must be approved by a national organization (e.g., the National Work Group on Leak Detection);

(b) The line leak detector must be capable of detecting a leak of three gallons per hour at ten pounds per square inch line pressure within one hour; and

(c) An annual test of the operation of the line leak detector must be conducted in accordance with the manufacturer's requirements.

(3) In addition to the requirements of section (2) of this rule, an owner and permittee with pressurized piping must conduct an annual line tightness test that can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure. Interstitial monitoring sensors may replace the annual line tightness test if:

(a) The equipment is designed, constructed and installed to monitor all portions of the underground piping that routinely contains a regulated substance; and

(b) The requirements for interstitial monitoring (OAR 340-150-0465) are met.

(4) Suction piping. For underground piping that conveys a regulated substance under suction (i.e., piping that operates at less than atmospheric pressure), an owner and permittee must check the piping for the presence of air in the pipeline in accordance with the National Fire Protection Association standard NFPA, 329 (1999) "Recommended Practices for Handling Releases of Flammable and Combustible Liquids and Gases" *Chapter 5, Release Detection of Tanks and Piping*, subsection 5-2.3.2(b), if any of the following indicator conditions are observed by any person dispensing a regulated substance:

(a) If there are indications of air in the pipeline or other unusual operating conditions are observed (refer to NFPA 329 subsection 5-2.3.2(a) for specific indicators), the pipeline check valve should be inspected to determine if it is seated tightly. The check valve must be repaired, replaced or sealed off as appropriate depending on the results of the inspection; and

(b) The requirements of OAR 340-150-0350 through 340-150-0354 must be met for any repair, modification or replacement actions taken to correct a problem.

(5) In addition to the requirements of section (4) of this rule, an owner and permittee of suction piping must conduct a line tightness test at least once every three years that can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.

(6) Release detection is not required for suction piping that is designed and constructed to meet the following standards:

(a) The below grade underground piping operates at less than atmospheric pressure;

(b) The below grade underground piping is sloped so that the contents of the pipe will drain back into the UST if the suction is released;

(c) Only one check valve is present in each suction line;

(d) The check valve is located directly below and as close as practical to the suction pump; and

(e) A method is provided that allows the department to readily determine compliance with this section of the rule.

(7) In lieu of conducting annual line tightness tests on either pressurized or suction piping, an owner and permittee may conduct monthly monitoring by one of the applicable release detection methods described in OAR 340-150-0450 through 340-150-0470, if the method is designed to detect a release from any portion of the underground piping that routinely contains a regulated substance.

(8) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records.

(9) An owner and permittee must report to the department any leak test results or other observations or results indicating the possibility of a release within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0420
Release Detection Requirements for Hazardous Substance UST Systems

(1) An owner and permittee of an UST system containing a hazardous substance other than petroleum must provide release detection that meets the requirements of this rule.

(2) Secondary containment systems. An owner and permittee may use the provisions of 40 CFR § 265.193, "Containment and Detection of Releases" to comply with this section of the rule. Secondary containment systems must be designed, constructed and installed to:

(a) Contain regulated substances released from the UST system until they are detected and removed; and

(b) Prevent the release of regulated substances to the environment at any time during the operational life of the UST system.

(3) Multiwalled USTs must be designed, constructed and installed to:

(a) Contain a release from any portion of the inner tank within the outer wall; and

(b) Detect the failure of the inner wall.

(4) External liners (including vaults) must be designed, constructed and installed to:

(a) Contain 100 percent of the capacity of the largest tank within its boundary;

(b) Prevent the interference of precipitation or groundwater intrusion with the ability to contain or detect a release of regulated substances; and

(c) Surround the tank completely (i.e., it is capable of preventing lateral as well as vertical migration of regulated substances).

(5) Underground piping must be equipped with secondary containment that satisfies the requirements of section (2) of this rule (e.g., trench liners, jacketing of double walled pipe). In

addition, underground piping that conveys regulated substances under pressure must be equipped with an automatic line leak detector in accordance with OAR 340-150-0410(2).

(6) An owner and permittee must monitor the UST system for releases every 30 days and record the results for each month.

(7) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records.

(8) An owner and permittee must report to the department any release detection failure indicating the possibility of a release within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510.

(9) An owner and permittee may use an alternative method of release detection if the proposed method is approved by the department in writing before installation of the UST system or addition of the release detection method. To obtain approval from the department, an owner and permittee must submit the following information for review:

(a) Technical, scientific data and reports that demonstrate that the proposed alternate method can detect a release of the stored hazardous substance as effectively as any of the methods allowed in OAR 340-150-0450 through 340-150-0470 can detect a release of petroleum; and

(b) Information on the effective corrective action technologies, health and environmental risks and chemical and physical properties of the stored substance and the geologic characteristics of the UST facility.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0430
Inventory Control Method of Release Detection

(1) An owner and permittee using inventory control as a release detection method must meet the requirements of this rule. Inventory control cannot be used as a release detection method for underground piping.

(2) Use of inventory control as a release detection method is allowed for a period of:

(a) Ten years after the installation of the UST system; or

(b) Ten years after the UST system achieved compliance with corrosion protection requirements; except

(c) In no case may inventory control be used as a *primary* release detection method after December 22, 2008; and

(d) After the period of use has expired as listed in subsections (a) through (c) of this section, an owner and permittee must use one of the release detection methods in OAR 340-150-0450 through 340-150-0470.

(3) Regulated substance (i.e., product) inventory control must be recorded daily and reconciled monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis.

(4) Inventory volume measurements for regulated substance inputs (deliveries), withdrawals and the amount still remaining in the UST must be recorded each operating day.

(5) The equipment used to measure the level of regulated substance in the UST (e.g., stick or automatic tank gauge) must be capable of measuring the level of the regulated substance over the

full range of the tank's height to the nearest one-eighth of an inch.

(6) Regulated substance inputs must be reconciled with delivery receipts by measurement of the tank inventory volume before and after each delivery.

(7) Regulated substance deliveries must be made through a drop tube that extends to within one foot of the tank bottom.

[Note: To meet Stage I air quality vapor control requirements, drop tubes must be within six inches of the tank bottom.]

(8) Regulated substance dispensing must be metered and recorded within the local standards for meter calibration or an accuracy of six cubic inches for every five gallons of the regulated substance withdrawn.

(9) The measurement of any water level in the bottom of the tank must be made to the nearest one-eighth of an inch at least once a month.

(10) Any monthly inventory reconciliation (positive or negative) that exceeds the comparison number of 1.0 percent of flow-through plus 130 gallons or greater leak rate in any single month is considered to be a release detection failure. An owner and permittee must:

(a) Report to the department a release detection failure that occurs for two consecutive months within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510; and

(b) Immediately investigate all larger-than-normal or reoccurring variations in results, including widely fluctuating water levels in the UST and report such variations to the department as a suspected release if the variation cannot be accounted for, without waiting to obtain a second month of data.

(11) An owner and permittee must have USTs tightness tested (OAR 340-150-0445) at least once every five years when inventory control is used as the sole or primary release detection method.

(12) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records and the last two tightness test results.

(13) An owner and permittee may use the practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets" (1993), where applicable, as guidance in meeting the requirements of this rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0435

Statistical Inventory Reconciliation Method of Release Detection

(1) An owner and permittee using statistical inventory reconciliation (SIR) as a release detection method must meet the requirements of this rule. SIR cannot be used as a release detection method for pressurized underground piping.

(2) The method must be capable of detecting a least a 0.2 gallon per hour leak rate from any portion of the UST that routinely contains a regulated substance with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent.

(3) The SIR method used must be an approved leak detection method that meets the requirements of section (2) of this rule as listed by a national organization (e.g., the National

Work Group on Leak Detection).

(4) Daily inventory control regulated substance measurements and data gathering must be performed in accordance with OAR 340-150-0430(4) through (9).

(5) An UST system must be monitored for releases on a monthly basis when the SIR method is used. To meet the monthly monitoring requirements, an owner and permittee must, within 22 days after each calendar month or 30-day period, submit the daily inventory records to and receive the SIR results back from the SIR vendor they have hired to perform the statistical analysis. An owner and permittee must follow up with the SIR vendor if there are delays and make any changes necessary to their service agreement or contract to prevent late report submittals.

(6) The results of a SIR analysis that shows a 0.2 gallon per hour or greater leak rate in any single month is considered to be a release detection failure.

(7) An owner and permittee must report to the department any single release detection failure and any two inconclusive results (as reported by the SIR vendor) obtained within a consecutive two-month period within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with OAR 340-150-0510; additionally,

(a) An owner and permittee must investigate and attempt to remedy or repair the cause of inconclusive results; and

(b) SIR must be discontinued as the release detection method and immediately substituted with one of the release detection methods listed in OAR 340-150-0450 through 340-150-0470 if:

(A) An owner and permittee is unable to correct the cause of the inconclusive results after tank and piping tightness testing results or other investigation methods confirm that the UST system is not leaking; and

(B) More than four inconclusive results are recorded within a consecutive 12-month period.

(c) An owner and permittee must immediately investigate all larger-than-normal, unusual or reoccurring variations in results, including widely fluctuating water levels in the tank and report such variations as a suspected release if the variation cannot be accounted for, without waiting to obtain a second month of data.

(8) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records, including SIR vendor results and inventory control records.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0440
Manual Tank Gauging Release Detection Method

(1) An owner and permittee may use manual tank gauging as a release detection method for USTs that are less than 2,001 gallons in size.

(a) For USTs of 1,000 gallons or less in size, this method may be used as the sole method of release detection.

(b) For USTs of 1,001 to 2,000 gallons in size, this method may be used instead of manual inventory control (OAR 340-150-0430). This method is allowed for a period of:

(A) Ten years after the installation of the UST system; or

(B) Ten years after the UST system achieved compliance with corrosion protection

requirements; except

(C) In no case may manual tank gauging be used as a *primary* release detection method after December 22, 2008.

(c) After the period of use has expired as listed in paragraph (1)(b)(C) of this section, an owner and permittee of an UST between 1,001 and 2,000 gallons in size must use one of the release detection methods in OAR 340-150-0450 through 340-150-0470.

(2) An owner and permittee must use the following procedures for the manual tank gauging release detection method:

(a) Tank liquid level measurements must be taken at the beginning and ending of a minimum 36-hour test period, during which time no liquid (i.e., regulated substance) may be added to or removed from the UST;

(b) Level measurements must be based on an average of two consecutive measuring stick or automatic tank gauge readings at both the beginning and ending of the period in which the UST is tested; and

(c) The equipment used to measure the level of regulated substance in the UST (e.g., stick or automatic tank gauge) must be capable of measuring the level of the regulated substance over the full range of the UST's height to the nearest one-eighth of an inch.

(3) An owner and permittee must monitor the UST system for releases at least weekly and record and reconcile the results of each week's readings for each month.

(4) In addition to any other requirements of this rule, an owner and permittee must conduct tightness testing (OAR 340-150-0445) of USTs of 1,001 to 2,000 gallons in size at least once every five years.

(5) An owner and permittee must report to the department any variation between beginning and ending measurements that exceeds either the weekly or monthly standards in subsections (a) through (c) of this section within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510:

(a) For USTs of 550 gallons or less in size:

(A) Weekly standard (one test) is ten gallons.

(B) Monthly standard (average of four tests) is five gallons.

(b) For USTs of 551 to 1,000 gallons in size:

(A) Weekly standard (one test) is 13 gallons.

(B) Monthly standard (average of four tests) is seven gallons.

(c) For USTs of 1,001 to 2,000 gallons in size:

(A) Weekly standard (one test) is 26 gallons.

(B) Monthly standard (average of four tests) is 13 gallons.

(d) An owner and permittee must immediately investigate all larger-than-normal or reoccurring variations in results and report such variations to the department as a suspected release if the variation cannot be accounted for, without waiting to obtain a second week of data.

(5) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records and the last two tightness test results.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0445

Tank Tightness Testing for Release Detection and Investigation

(1) An owner and permittee using tank tightness testing in combination with a primary release detection method or as a method for investigating a suspected release must use a test method or procedure that:

(a) Is able to detect a 0.1 gallon per hour leak rate from any portion of the UST that routinely contains a regulated substance, while accounting for the effects of thermal expansion or contraction of the regulated substance, vapor pockets, tank deformation, evaporation or condensation and the location of the water table;

(b) Meets a probability of detection of at least 95 percent and a probability of false results (or false alarm, depending on method used) of no more than 5 percent;

(c) Is an approved leak detection method or equipment as listed by a national organization (e.g., the National Work Group on Leak Detection); and

(d) Is performed by a service provider or supervisor licensed by the department, except as provided by OAR 340-150-0156.

(2) Some automatic tank gauge equipment may meet the leak rate and probability requirements and may be used in place of a separate tank tightness test. To qualify as a tank tightness test, the automatic tank gauge must meet the requirements of subsections (1)(a), (b) and (c) of this rule.

(3) If an UST system fails a tank tightness test (after the tank tester has ensured that all test protocols were properly performed), an owner and permittee must report the failure to the department within 24 hours of receipt of the results as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0450

Automatic Tank Gauging Release Detection Method

(1) An owner and permittee using equipment for automatic tank gauging (ATG) that tests for the loss of a regulated substance and conducts inventory control as a release detection method must use equipment that meets the requirements of this section. The ATG system must:

(a) Be able to detect a 0.2 gallon per hour leak rate with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent for all portions of the UST that routinely contain a regulated substance; and

(b) Be an approved leak detection method or equipment as listed by a national organization (e.g., the National Work Group on Leak Detection).

(2) For USTs, an owner and permittee must monitor and test for releases at least once every 30 days and record results for each month.

(3) For underground piping, an owner and permittee must monitor and test for releases if the ATG system is designed to detect a release from any portion of the underground piping that routinely contains a regulated substance and record results for each month as follows:

(a) Daily for pressurized piping.

(b) Once every 30 days for suction piping.

(4) An owner and permittee must:

(a) Report to the department any leak test results indicating the possibility of a release (i.e., test failure) within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with OAR 340-150-0510; and

(b) Immediately investigate all larger-than-normal or reoccurring variations in results, including widely fluctuating water levels in the tank and report such variations as a suspected release if the variation cannot be accounted for, without waiting to obtain a second month of data.

(5) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records.

(6) ATG systems installed before December 22, 1990, are exempt from the leak rate quantities, probability limits and third party evaluation requirements of this rule, except:

(a) The ATG system must be able to detect a 0.2 gallon per hour leak rate from any portion of the UST that routinely contains a regulated substance; and

(b) An owner and permittee can only use the ATG system to obtain daily regulated substance volumes for the inventory control release detection method (OAR 340-150-0430) if the ATG does not meet the requirements of section (1) of this rule.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0455
Vapor Monitoring Release Detection Method

(1) An owner and permittee may use testing or monitoring for vapors within the soil gas of the excavation zone as a release detection method for an UST or underground piping if the method is approved by the department in writing before installing or operating any portion of the vapor monitoring system, including wells.

(2) An owner and permittee must submit to the department, at least 30 days before installing any portion of the vapor monitoring system, a written design plan (including all technical data and design information) prepared and signed by a registered professional engineer or a registered geologist specially qualified by education and experience to design release detection systems. The design plan must meet the following minimum requirements:

(a) The materials used as backfill must be sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

(b) The stored regulated substance or a tracer compound placed in the UST system, must be sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

(c) The measurement of vapors by the monitoring device must not be rendered inoperative by groundwater, rainfall or soil moisture or other known interferences so that a release could go undetected for more than 30 days;

(d) The level of background contamination in the excavation zone must not interfere with the method used to detect releases from the tank; and

(e) The vapor monitors must be designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the UST system, a

component or components of that substance or a tracer compound placed in the UST system.

(3) Before installation of monitoring wells, an owner and permittee must have the site assessed to demonstrate compliance with the requirements of this rule and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the UST or underground piping that routinely contains a regulated substance.

(4) The department will approve the installation if, after reviewing the design plan, it determines that the vapor monitoring system proposed is capable of detecting a release from any portion of the UST or underground piping that routinely contains a regulated substance.

(5) An owner and permittee must mark and secure monitoring wells at all times to prevent unauthorized access and tampering.

(6) Release detection observation, documentation and reporting requirements. An owner and permittee must:

(a) Operate and maintain the continuous monitoring device or manual method so the equipment will detect the presence of vapors as noted in subsection (2)(e) of this rule;

(b) Perform an alarm test at least once each month;

(c) Check the excavation zone for releases and record the observation results for each month. At a minimum, records must include documentation that the system is properly operated and maintained and include results of alarm tests made, according to the following schedule:

(A) On a daily basis for USTs and pressurized piping.

(B) Once every 30 days for suction piping.

(d) Report to the department any observations or alarms indicating the possibility of a release within 24 hours as a suspected release (OAR 340-150-500) and immediately begin investigation in accordance with OAR 340-150-0510.

(7) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records and vapor well installation approval documents must be available for department review upon request.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0460
Groundwater Monitoring Release Detection Method

(1) An owner and permittee may use testing or monitoring for liquid regulated substances on or in the groundwater as a release detection method for an UST or underground piping if the method is designed to detect a release from any portion of the UST or underground piping that routinely contains a regulated substance.

(2) An owner and permittee must submit to the department, at least 30 days before installing or operating any portion of the groundwater monitoring system, a written design plan (including all technical data and design information) prepared and signed by a registered professional engineer or a registered geologist specially qualified by education and experience to design release detection systems. The design plan must meet the following minimum requirements:

(a) The regulated substance stored must be immiscible in water and have a specific gravity of less than one;

(b) Sufficient data must be included, and periodically checked, to demonstrate that

groundwater will never be more than 20 feet from the ground surface and the hydraulic conductivity of the soil between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);

(c) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;

(d) Monitoring wells must be sealed from the ground surface to the top of the filter pack; and

(e) Monitoring wells or devices must intercept the excavation zone or are as close to it as is technically feasible.

(3) Before installation of monitoring wells, an owner and permittee must have the site assessed to demonstrate compliance with the requirements of this rule and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the UST or piping that routinely contains a regulated substance.

(4) The department will approve the installation if, after reviewing the design plan, it determines that the groundwater monitoring system proposed is capable of detecting a release from any portion of the UST or underground piping that routinely contains a regulated substance.

(5) An owner and permittee must mark and secure monitoring wells at all times to prevent unauthorized access and tampering.

(6) Release detection observation, documentation and reporting requirements. An owner and permittee must:

(a) Operate and maintain the continuous monitoring device or manual method so the equipment will detect the presence of at least one-eighth of an inch of free product on top of the groundwater in the monitoring wells;

(b) Perform an alarm test at least once each month;

(c) Check the excavation zone for releases and record the observation results for each month. At a minimum, records must include documentation that the system is properly operated and maintained and include results of alarm tests made, according to the following schedule:

(A) On a daily basis for USTs and pressurized piping.

(B) Once every 30 days for suction piping.

(d) Report to the department any observations or alarms indicating the possibility of a release within 24 hours as a suspected release (OAR 340-150-500) and immediately begin investigation in accordance with OAR 340-150-0510.

(7) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records and groundwater well installation approval documents must be available for department review upon request.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0465
Interstitial Monitoring Release Detection Method

(1) An owner and permittee may use an interstitial monitoring system as a release detection method if:

(a) The system is designed, constructed and installed in accordance with a national code of practice or industry standard and the interstitial monitoring system is an approved leak detection system (method and equipment) as listed by a national organization (e.g., the National Work Group on Leak Detection); and

(b) The system is able to detect a leak from any portion of an UST or underground piping that routinely contains a regulated substance.

(2) An owner and permittee must meet the following requirements for the specific type of UST system or piping:

(a) Multiwalled UST systems. The sampling or testing method must be able to detect a release through the inner wall in any portion of the UST. The provisions outlined in the Steel Tank Institute "Standard for Dual Wall Underground Storage Tanks" (2001) may be used as guidance for aspects of the design and construction of underground metal double walled tanks.

(b) UST systems with a secondary barrier within the excavation zone. The sampling or testing method used must be able to detect a release between the UST system and the secondary barrier.

(A) The secondary barrier around or beneath the UST system must consist of artificially constructed material that is sufficiently thick and impermeable (at least 10 ¯6 cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;

(B) The secondary barrier must be compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier or allow a release to pass through the barrier;

(C) For USTs with corrosion protection, the secondary barrier must be installed so that it does not interfere with the proper operation of the corrosion protection system;

(D) Groundwater, soil moisture or rainfall cannot render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days or one day if used for pressurized underground piping;

(E) Before installation, an owner and permittee must have the site assessed to demonstrate that the secondary barrier is always above the seasonal high groundwater level and not in a 25-year flood plain, unless the barrier and monitoring system are designed for use under such conditions; and

(F) An owner and permittee must mark and secure monitoring wells at all times to prevent unauthorized access and tampering.

(c) USTs with an internally fitted liner. An automated device must be able to detect a release between the inner wall of the UST and the liner and the liner must be compatible with the regulated substance stored.

(d) Double walled pressurized piping. Interstitial monitoring sensors must be installed in any transition sump which houses a noncontinuous junction of the interstitial space (e.g., any and all points along the piping run where the interstitial space is no longer continuous).

(3) An owner and permittee must monitor the UST and underground suction piping for a release at least every 30 days and record the results for each month.

(4) An owner and permittee must monitor pressurized underground piping for a release daily and record the results for each month.

(5) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records. Records must include, at a minimum, the date the system was checked, observations made and the name or initials of the person conducting the

monitoring. In addition, records for electronic systems must include: power status (on or off), alarm indication status (yes or no) and sensor malfunction noted (yes or no).

(6) An owner and permittee must report to the department any leak test observations, alarms or results indicating the possibility of a release to the interstitial area within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with 340-150-0510.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0470
Other Methods of Release Detection

(1) An owner and permittee may use a release detection method for an UST or underground piping not otherwise specified in OAR 340-150-0410 through 340-150-0465 if the device is able to detect a 0.2 gallon per hour leak rate with a probability of detection of at least 95 percent and a probability of false alarm of no more than 5 percent for all portions of the UST or underground piping that routinely contains a regulated substance and is an approved leak detection method or equipment as listed by a national organization (e.g., the National Work Group on Leak Detection).

(2) An owner and permittee must monitor the UST and underground suction piping for a release at least every 30 days and record the results for each month.

(3) An owner and permittee must monitor pressurized underground piping for a release daily and record the results for each month.

(4) An owner and permittee must:

(a) Report to the department any release detection test results indicating the possibility of a release (i.e., test failure or alarm) within 24 hours as a suspected release (OAR 340-150-0500) and immediately begin investigation in accordance with OAR 340-150-0510; and

(b) Immediately investigate all larger-than-normal or reoccurring variations in results and report such variations as a suspected release if the variation cannot be accounted for, without waiting to obtain a second confirmation of data.

(5) An owner and permittee must retain at a minimum the most current 12 consecutive months of release detection records.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0500
Reporting Suspected Releases

(1) An owner and permittee of an UST system must notify the department within 24 hours and follow the procedures in OAR 340-150-0510 for any of the following conditions:

(a) The discovery by any means of a regulated substance at the UST facility or in the surrounding off site area such as, but not limited to, the presence of free product or vapors in soils, basements, sewer or utility lines or nearby surface water or release into a secondary

containment area. Additionally, an owner and permittee must identify and mitigate any fire, explosion or vapor hazards at the UST facility in accordance with OAR 340-122-0220(3);

(b) Unusual operating conditions (such as, but not limited to, the erratic behavior of dispensing equipment, the sudden loss of product from the UST system, differences or widely fluctuating water levels or an unexplained presence of water in the tank) observed by the owner, permittee, employee or other knowledgeable personnel, unless system equipment is immediately tested and found to be defective, but not leaking, and is immediately repaired or replaced; or

(c) Monitoring results or alarms from any release detection method that indicates a release may have occurred, unless the monitoring device is found to be defective and is immediately repaired, recalibrated or replaced and subsequent monitoring events as required by the specific release detection method do not confirm the initial result. The specific release detection requirements are found in OAR 340-150-0420 through 340-150-0470.

(2) Upon receipt of a notice of a suspected release, a confirmation number will be provided to the owner and permittee that serves as proof that timely notice was received. This confirmation number should be referenced by an owner and permittee when reporting the results of actions taken to comply with OAR 340-150-0510.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0510
Suspected Release Investigation and Confirmation Steps

(1) Following the discovery of a suspected release, an owner and permittee must immediately initiate investigation and confirmation of a suspected release of a regulated substance as required by this rule. This investigation must be completed within seven days or as otherwise approved or directed by the department.

(2) Upon expiration of the 7-day period or other period approved by the department, an owner and permittee must notify the department of the investigation results by submitting to the department:

(a) A written description of the system test conducted confirming that a release did not occur, including any test results; or

(b) A written plan of action to complete the suspected release investigation system test or site assessment. Any plan of action must include a firm schedule for completion.

(3) System test. An owner and permittee must conduct tightness testing to determine whether a leak exists in any portion of the UST that routinely contains a regulated substance (OAR 340-150-0445) or the underground piping (340-150-0410) or both. An owner and permittee must investigate the cause of a release into any secondary containment unit including, but not limited to, underground piping, turbine sumps, transition sumps and dispenser pans by conducting tests in accordance with manufacturer requirements or as directed by the department. All regulated substances (product) or product and water mixture must be removed from the containment system and properly disposed in accordance with all state, federal and local requirements.

(a) If the suspected release was not reported due to any of the conditions described in OAR 340-150-0500(1)(a) *and* the system test results do not indicate that a release has occurred, further investigation is not required, unless otherwise directed by the department.

(b) If the suspected release was reported due to any of the conditions described in OAR 340-150-0500(1)(a) or the system test results indicate that a release exists, an owner and permittee must assess and repair, replace or modify the UST system and begin corrective action in accordance with sections (4) and (5) of this rule.

(4) Site assessment. If the test results for the UST, piping or secondary containment units do not indicate that a release exists, but the suspected release was reported due to any of the conditions described in OAR 340-150-0500(1)(a) or if directed by the department, an owner and permittee must conduct a site assessment for contaminated soil or groundwater. An owner and permittee must measure for the presence of a release where contamination is most likely to be present based on all information available. In selecting sample types, sample locations and measurement methods, an owner and permittee must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth to groundwater and other factors appropriate for identifying the presence and source of the release. The requirements for sample collection, analytical tests and methods contained in OAR 340-122-0205 through 340-122-0360 must be used as appropriate. The department may require that a sampling plan be submitted for approval before conducting any sampling on a case by case basis. In addition:

(a) If the site assessment results do not indicate that a release has occurred, further investigation is not required unless specifically directed by the department.

(b) If the site assessment results indicate that a release has occurred, an owner and permittee must begin corrective action in accordance with section (5) of this rule.

(5) If the suspected release investigation confirms that a release has occurred, an owner and permittee must report the confirmed release to the department within 24 hours of confirmation and comply with the following release reporting, site investigation and corrective action requirements:

(a) For petroleum USTs; OAR 340-122-0205 through 340-122-0360.

(b) For USTs containing nonpetroleum regulated substances; OAR 340-122-0010 through 340-122-0115, except that releases must be reported in accordance with the requirements of OAR chapter 340, division 142.

(6) The department may require that an owner and permittee perform additional actions not specifically listed in this rule on a case by case basis to address actual or potential threat to human health or the environment.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0520
Investigation Due to Off Site Impacts

When required by the department, an owner and permittee of an UST system must follow the procedures in OAR 340-150-0510 to determine if their UST system is the source of off site impacts. These impacts include, but are not limited to, the presence of a regulated substance (such as the presence of free product or vapors in soils, basements, sewer and utility lines and nearby surface and drinking waters) that has been observed by the department or brought to its attention by another person.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0540
Applicability to Previously Closed UST Systems

When directed by the department, an owner of an UST system permanently closed or abandoned (e.g., left unused without being substantially emptied, decommissioned or permanently altered structurally to prevent reuse) before December 22, 1988, or an owner and permittee for any UST facility for which inadequate decommissioning records are available for review by the department, must assess the excavation zone and close the UST system in accordance with this division if a release from the UST poses, in the judgment of the department, a current or potential threat to human health or the environment.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0550
Definitions for OAR 340-150-0555 and 340-150-0560

As used in OAR 340-150-0555 and 340-150-0560, the following terms are defined as follows:

(1) *"Existing UST system"* means an UST system used to contain an accumulation of regulated substances where installation commenced on or before December 22, 1988.

(2) *"New UST system"* means an UST system used to contain a regulated substance and for which installation commenced after December 22, 1988.

(3) *"Upgrade"* means the addition to or retrofit of an UST system to meet technical requirements for cathodic protection, lining, release detection or spill and overfill protection before December 22, 1998.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0555
Compliance Dates for USTs and Piping

(1) An owner and permittee must comply with all release detection requirements for a new or existing UST system or permanently close the UST system by the following schedule:

(a) For UST systems installed before 1965 and for UST systems where the installation date is unknown:

(A) December 22, 1989, for tanks and suction piping.

(B) December 22, 1990, for pressurized piping.

(b) For UST systems installed between 1965 and 1969 - December 22, 1990, for tanks, suction piping and pressurized piping.

(c) For UST systems installed between 1970 and 1974:

(A) December 22, 1990, for pressurized piping.
(B) December 22, 1991, for tanks and suction piping.
(d) For UST systems installed between 1975 and 1979:
(A) December 22, 1990, for pressurized piping.
(B) December 22, 1992, for tanks and suction piping.
(e) For UST systems installed between 1980 and December 22, 1988:
(A) December 22, 1990, for pressurized piping.
(B) December 22, 1993, for tanks and suction piping.
(f) For tanks, suction piping and pressurized piping, release detection requirements must be met upon date of installation for all new UST systems installed after December 22, 1988.
(2) An owner and permittee of a new UST system installed after December 22, 1988, must comply with the corrosion protection performance standards for tanks and piping (OAR 340-150-0320 and 340-150-0325) by no later than December 22, 1998.
(3) An owner and permittee of an existing UST system installed on or before December 22, 1988, must comply with the requirements for upgrading USTs and piping (OAR 340-150-0560) by no later than December 22, 1998.
(4) In lieu of complying with section (2) or (3) of this rule, an owner and permittee must decommission the UST system in compliance with the requirements of OAR 340-150-0166 through 340-150-0168 by no later than December 22, 1998.
(5) An owner and permittee of a hazardous substance UST system (e.g., an UST containing any nonpetroleum regulated substance) installed on or before December 22, 1988, must comply with the release detection requirements of OAR 340-150-0400 and 340-150-0410 until December 22, 1998. After December 22, 1998, an owner and permittee of all hazardous substance UST systems must comply with the requirements of OAR 340-150-0420.
(6) An owner and permittee of a new or existing UST system that does not meet the performance standards in OAR 340-150-0300 or 340-150-0560 may use monthly inventory control and annual tank tightness testing as a release detection method until December 22, 1998. After that date, an owner and permittee must upgrade or permanently close the UST system.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0560
Upgrading Requirements for Existing UST Systems
This rule describes the technical requirements for UST systems that an owner and permittee was required to meet by December 22, 1998, in accordance with OAR 340-150-0555(3). The equivalent federal rule citation has been included for reference.
(1) Tank upgrading requirements. An owner and permittee of a steel UST must upgrade the UST system to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory (40 § CFR 280.21(b)):
(a) Interior lining. An UST may be upgraded by internal lining (40 CFR § 280.21(b)(1) if:
(A) The lining is installed in accordance with the requirements of 40 CFR § 280.33 (OAR 340-150-0352); and

(B) Within ten years after lining and every five years thereafter, the lined UST is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications (OAR 340-150-0360).

(b) Cathodic protection (40 CFR § 280.21(b)(2)). An UST may be upgraded by the addition of cathodic protection if the cathodic protection system meets the requirements of 40 CFR § 280.20(a)(2)(ii), (iii) and (iv) (OAR 340-150-0320(3)) and the integrity of the UST is ensured using one of the following methods:

(A) The UST is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes before installing the cathodic protection system;

(B) The UST has been installed for less than ten years and is monitored monthly (or daily as required by the specific method) for releases in accordance with 40 CFR § 280.43(d) through (h) (OAR 340-150-0450 through 340-150-0470);

(C) The UST has been installed for less than ten years and is assessed for corrosion holes by conducting two tightness tests that meet the requirements of 40 CFR § 280.43(c) (OAR 340-150-0445). The first tightness test must be conducted before installing the cathodic protection system. The second tightness test must be conducted between three and six months following the first operation of the cathodic protection system; or

(D) The UST is assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than paragraphs (A) through (C) of this subsection.

(c) Internal lining combined with cathodic protection (40 CFR § 280.21(b)(3)). An UST may be upgraded by both internal lining and cathodic protection if:

(A) The lining is installed in accordance with the requirements 40 CFR § 280.33 (OAR 340-150-0352); and

(B) The cathodic protection system meets the requirements of 40 CFR § 280.20(a)(2)(ii), (iii) and (iv) (OAR 340-150-0320(3)).

(2) An owner and permittee may use the following codes and standards to comply with section (1) of this rule:

(a) American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";

(b) National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection";

(c) National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried or Submerged Liquid Storage Systems"; and

(d) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

(3) Piping upgrading requirements (40 § CFR 280.21(c)). An owner and permittee of steel underground piping that routinely contains a regulated substance must cathodically protect the piping in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and meet the requirements of 40 CFR § 280.20(b)(2)(ii) (iii) and (iv) (OAR 340-150-0320(2) through (4)). An owner and permittee may use the following codes and standards to comply with this requirement (40 CFR § 280.20(b)):

(a) Underwriters Laboratories Subject 971, "UL Listed Non-Metal Pipe";

(b) Underwriters Laboratories Standard 567, "Pipe Connectors for Flammable and

Combustible and LP Gas";

(c) Underwriters Laboratories of Canada Guide ULC-107, "Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids"; and

(d) Underwriters Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground Hose Connectors."

(4) Spill and overfill prevention equipment (40 CFR § 280.21(d)). To prevent spilling and overfilling associated with transfer of a regulated substance to the UST system, an owner and permittee of an existing UST system must comply with new UST system spill and overfill prevention equipment requirements specified in 40 CFR § 280.20(c) (OAR 340-150-0310).

(5) Reporting requirements (40 CFR § 280.21(e) as previously modified by OAR 340-150-0003(41)). At least 30 days before beginning the upgrading of an existing UST system under sections (1) and (2) of this rule, an owner and permittee must notify the department, on a form provided by the department, of their intent to upgrade an existing UST system. Unless the department agrees to waive the requirement, at least three working days before beginning the upgrade, an owner, permittee or licensed service provider performing the work must notify the department of the confirmed date and time the upgrade will begin to allow observation by the department. An owner, permittee or licensed service provider must submit a completed installation checklist to the department within 30 days after completion of the upgrade.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746 & 466.765
Hist.: New

340-150-0~~115~~600
Delegation of Program Administration

(1) Any agency of th~~is~~e state or a ~~local~~ unit of local government ~~wishing~~that seeks the authority to administer all or part of the ~~underground storage tank~~UST program covered by ~~these rules~~ OAR chapter 340, divisions 150 and 151 must submit to the department a written application that describe~~sing~~ the portions of the ~~Department's underground storage tank~~UST program ~~they~~it ~~wish~~proposes to administer. The application ~~shall~~must contain the following:

(a) A description in narrative form of the scope, structure, coverage and procedures of the proposed program; and

(b) A description, including organization charts, of the organization and structure of applicant, including:

(A) The number of employees, occupation and general duties of each employee who will carry out the activities of the program;

(B) An itemized estimate of the cost of establishing and administering the program, including the cost of personnel listed in paragraph (A) of this subsection, ~~and~~ administrative and technical support;

(C) An itemization of the source and amount of funding available to meet the costs listed in paragraph (B) of this subsection, including any restrictions or limitations upon this funding;

(D) A description of applicable procedures, including permit procedures;

(E) Copies of the permit form, application form and reporting form that will be used in the program;

(F) A complete description of the methods to be used to assure compliance and for

enforcement of the program;

(G) A description of the procedures to be used to coordinate information with the ~~D~~department, including the frequency of reporting and report content; and

(H) A description of the procedures the applicant will use to comply with trade secret laws under ORS 192.500 and 468.910.

(2) Within ~~3~~60 days after receiving the application, the ~~D~~department will review the application for completeness and request any additional information needed ~~in order for the application to be complete~~. The ~~D~~department will notify the applicant in writing when the application is complete.

(3) Within 120 days after the application is complete, the ~~D~~department will:

(a) Approve the proposal by ~~Prepare and mail a written and~~submitting a signed agreement or contract to the applicant that outline~~s~~ing the terms and conditions under which the ~~D~~department ~~will~~agrees to delegate all or a portion ~~or all~~ of the ~~underground storage tank~~UST program described ~~by these~~in section (1) of this rule~~s, to the applicant~~; or

(b) Deny the application ~~where~~if the ~~D~~department finds the program described by the applicant~~ion~~ is not equivalent to the ~~D~~department's ~~underground storage tank~~UST program.

(4) The agreement or contract may be terminated by either party by providing 30 days prior notice in writing.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.730
Hist.: DEQ 20-1990, f. & cert. ef. 6-7-90

340-150-01~~25~~620

Approval of More Stringent Performance Standards

(1) Any ~~local~~ unit of local government ~~supplying water for municipal purposes from an underground source that could be jeopardized by releases from UST systems~~ may petition the ~~D~~department for more stringent UST performance standards for UST systems in the vicinity of ~~the~~an underground water source. Administrative rules ~~on~~for more stringent performance standards may be proposed for adopte~~d~~ion by the commission where the ~~Commission~~department finds ~~determines through facts and findings~~ that it is necessary to protect the underground water ~~supply~~resource through more stringent UST performance standards.

(2) The petition must be made to the ~~D~~department in writing and ~~shall~~must include the following information:

(a) A description of the underground water resource including, but not limited to:

(A) The geographical limits of the area where more stringent UST performance standards are required;

(B) The geographical limits of the groundwater recharge zone;

(C) The geographical limits of the underground water resource;

(D)The geology within both the recharge zone and the underground water resource;

(E) The ~~L~~location, size and present use of wells within the limits of the underground water resource; and

(F) The e~~E~~stimated capacity of the underground water resource.

(b) A description of the existing threats to the groundwater resource including, but not limited to:

(A) Location, type and number of ~~underground storage tank~~USTs;
(B) Agricultural effluent and rainwater runoff;
(C) Industrial effluent and rainwater runoff; and
(D) Rainwater runoff from roads and parking lots.
(c) A description of the ~~underground storage tank~~UST performance standards required, including UST technical standards, operating standards~~,~~ and administrative procedures; and
(d) A description of the emergency conditions, ~~where~~if the petitioner requests adoption of emergency rules.
(3) Within ~~3~~60 days after receiving the petition, the ~~D~~department will review the petition for completeness and request any additional information needed ~~in order for the petition to be complete~~. The ~~D~~department will notify the petitioner in writing when the petition is complete.
(4) Within 120 days after the petition is complete, the ~~D~~department will recommend to the commission that:
(a) The department ~~I~~initiate rulemaking to implement the performance standards requested; or
(b) The ~~Recommend denial of the~~ petition be denied ~~where~~if the ~~D~~department finds that more stringent UST performance standards are not necessary to protect the underground water ~~supply~~resource.

Stat. Auth.: ORS 466.706 - 466.835, 466.994 & 466.995
Stats. Implemented: ORS 466.746
Hist.: DEQ 20-1990, f. & cert. ef. 6-7-90

APPENDIX A
OAR 340-150-0300
Installation of USTs and Piping
The following codes and standards may be used to comply with this rule:
(1) American Petroleum Institute Publication 1615 (1996), "Installation of Underground Petroleum Storage System";
(2) Petroleum Equipment Institute Publication RP100-2000 (2000), "Recommended Practices for Installation of Underground Liquid Storage Systems";
(3) National Fire Protection Association Standard 30 (2000), "Flammable and Combustible Liquids Code"; and
(4) American Petroleum Institute Publication 2200 (1994), "Repairing Crude Oil, Liquified Petroleum Gas and Product Pipelines".

APPENDIX B
OAR 340-150-0300(3)
Installation of USTs and Piping
The following codes may be used for USTs or underground piping storing alcohol blends to comply with this section of the rule:
(1) American Petroleum Institute Publication 1626 (1985), "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations"; and
(2) American Petroleum Institute Publication 1627 (1986), "Storing and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations".

APPENDIX C
340-150-0310
Spill and Overfill Prevention Equipment and Requirements
The following codes and standards may be used to comply with this rule:
(1) Transfer procedures described in National Fire Protection Association Publication 385 (1990);
(2) Further guidance on spill and overfill prevention appears in:
(a) American Petroleum Institute Publication 1621 (1993), "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and
(b) National Fire Protection Association Standard 30 (2000), "Flammable and Combustible Liquids Code".

APPENDIX D1-USTs
340-150-0320(2)
Corrosion Protection Performance Standards for USTs and Piping
The following standard may be used for USTs constructed of fiberglass-reinforced plastic to comply with this section of the rule:
Underwriters Laboratories Standard 1316 (1994), "Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products".

APPENDIX D2-Piping
340-150-0320(2)
Corrosion Protection Performance Standards for USTs and Piping
The following codes and standards may be used for underground piping constructed of fiberglass-reinforced plastic to comply with this section of the rule:
(1) Underwriters Laboratories Subject 971 (1995), "UL Listed Non-Metal Pipe";
(2) Underwriters Laboratories Standard 567 (1996), "Pipe Connectors for Flammable and Combustible and LP Gas"; and
(3) American Petroleum Institute Standard 2610 (1994), "Design, Construction, Operation, Maintenance and Inspection of Terminal & Tank Facilities".

APPENDIX E1-USTs
OAR 340-150-0320(3)
Corrosion Protection Performance Standards for USTs and Piping
The following codes and standards may be used for USTs constructed of steel or other metal to comply with this section of the rule:
(1) Steel Tank Institute STI-P3-00 (2000), "Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks";
(2) Underwriters Laboratories Standard 1746 (1993), "Corrosion Protection Systems for Underground Storage Tanks"; and
(3) National Association of Corrosion Engineers Standard RP 0285-2002, Standard Recommended Practice: "Control of External Corrosion on Metallic Buried, Partially Buried or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids".

APPENDIX E2-Piping
OAR 340-150-0320(3)
Corrosion Protection Performance Standards for USTs and Piping

The following codes and standards may be used for underground piping constructed of steel or other metal to comply with this section of the rule:

(1) National Fire Protection Association Standard 30 (2000), "Flammable and Combustible Liquids Code";

(2) American Petroleum Institute Publication 1615 (1996), "Installation of Underground Petroleum Storage Systems";

(3) American Petroleum Institute Publication 1632 (1996), "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems";

(4) Steel Tank Institute -R922-00 (2000), "Specification for Permatank";

(5) Steel Tank Institute -F961-00 (2000), "ACT-100-U Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks";

(6) National Association of Corrosion Engineers RP-0169-2002 (01-JUL-02), Standard Recommended Practice: "Control of External Corrosion on Underground or Submerged Metallic Piping Systems";

(7) National Association of Corrosion Engineers Test Method TM 0101-2001 (2001), "Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems";

(8) Steel Tank Institute -R892-91 (1991), "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems";

(9) Steel Tank Institute -R972-98 (1998), "Recommended Practice for the Installation of Supplemental Anodes for STI-P3 USTs"; and

(10) National Association of Corrosion Engineers Test Method TM 0497-2002 (2002), "Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems".

APPENDIX F
OAR 340-150-0320(4)
Corrosion Protection Performance Standards for USTs and Piping

The following codes may be used for USTs constructed of steel-fiberglass reinforced plastic composite to comply with this section of the rule:

(1) Underwriters Laboratories Standard 1746 (1993), "Corrosion Protection Systems for Underground Storage Tanks";

(2) Steel Tank Institute -F894-00 (2000), "ACT-100 Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks"; and

(3) Steel Tank Institute -F961-00 (2000), "ACT-100U Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks".

APPENDIX G
340-150-0325
Operation and Maintenance of Corrosion Protection

The following standard may be used to comply with this rule:

The National Association of Corrosion Engineers Standard RP-0285-2002 (2002), "Standard Recommended Practice: Corrosion Control of Underground Storage Tank Systems by Cathodic Protection".

APPENDIX H

340-150-0350(3) UST System Repairs

340-150-0352 UST System Modifications and Additions

The following codes and standards may be used to comply with these rules:

(1) National Fire Protection Association Standard 326 (1999), "Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning or Repair";

(2) American Petroleum Institute Publication 1631 (2001), "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";

(3) National Association of Corrosion Engineers Standard RP-0285-2002, "Control of External Corrosion on Metallic Buried, Partially Buried or Submerged Liquid Storage Systems";

(4) American Petroleum Institute Publication 1632 (1996), "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems";

(5) Ken Wilcox Associates (1999), "Recommended Practice for Inspecting Buried Lined Steel Tanks Using a Video Camera";

(6) National Association of Corrosion Engineers Standard RP-0178-95, "Recommended Practice: Design, Fabrication and Surface Finish of Metal Tanks and Vessels to be Lined for Chemical Immersion Service";

(7) National Association of Corrosion Engineers Standard RP-0184-91 (1991), "Recommended Practice: Repair of Lining systems";

(8) National Association of Corrosion Engineers Standard RP-0288-94 (1994), "Standard Recommended Practice: Inspection of Linings on Steel and Concrete";

(9) Fiberglass Petroleum Tank & Pipe Institute Recommended Practice T-95-02 (1995), "Remanufacturing of Fiberglass Reinforced Underground Storage Tanks";

(10) American Society of Testing and Materials G 158-98 (1998), "Standard Guide for Three Methods of Assessing Buried Steel Tanks"; and

(11) American Society of Testing and Materials E 1990-98 (1998), "Standard Guide for Performing Evaluations of Underground Storage Tank Systems for Operational Compliance with 40 CFR, Part 280 Regulations".

APPENDIX I

OAR 340-150-0400

General Release Detection Requirements for All UST Systems

The following code may be used to comply with this rule:

American Society of Testing and Materials E 1526-93 (1993), "Standard Practice for Evaluating the Performance of Release Detection Systems for Underground Storage Tank Systems".

APPENDIX J

General Guidance Documents for UST Owners and Permittees

The following codes and standards may be useful for UST owners and permittees:

(1) American Petroleum Institute Recommended Practice 2003 (1998), "Protection Against

Ignitions Arising Out of Static, Lightning and Stray Currents";
(2) American Petroleum Institute Publication 2005 (1996), "Service Station Safety";
(3) National Association of Corrosion Engineers Standard RP 0177-95 (1995) Recommended Practice: "Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion Systems";
(4) National Fire Protection Association 30A (1996), "Automotive and Marine Service Station Code";
(5) National Fire Protection Association 385 (1990), "Standard for Tank Vehicles for Flammable and Combustible Liquids"; and
(6) Underwriters Laboratories 58 (1996), Standard for Safety: "Steel Underground Tanks for Flammable and Combustible Liquids".

APPENDIX K
340-150-0180
Site Assessment Requirements for Permanent Closure or Change-In-Service

Written site assessment plans must be submitted to the department for review and approval before initiating:

- Permanent closure in-place;
- Change-in-service from regulated to nonregulated status; or
- Decommissioning an UST that contains a hazardous substance other than petroleum (by removal, closure in-place or change-in-service).

The site assessment plan may be prepared by completing a form provided by the department or the plan may be a written report that covers all elements of this Appendix. The requirements of OAR 340-150-0180(3) and (4) must be met. This Appendix includes the required information.

UST facility and permittee information:
Name and address of the UST facility, UST Facility ID number issued by DEQ and name, address and contact number for the permittee. The permittee must sign and date the completed report as true and correct.

Service provider and supervisor information:
Name, address and contact number for the service provider performing the work (including license number and expiration date) and supervisor assigned to the project (including license number and expiration date). The supervisor must sign and date the completed report as true and correct.

UST information:
For each UST: tank material or type, date installed, size, and contents. Include any information about tank history that could be significant (e.g., previous suspected or confirmed release reported, repairs, testing failures, etc.).

Type of decommissioning:
State which type of decommissioning will be performed: permanent closure in-place or change-in-service from regulated to nonregulated status for petroleum USTs or decommissioning an

UST that contains a hazardous substance other than petroleum by removal, closure in-place or change-in-service.

Site diagram:
A site diagram (*drawn approximately to scale*) that notes the location of all USTs and underground piping, buildings and nearby properties must be attached to the site assessment plan. Note if there are any surface water bodies within ¼ mile of the UST facility or if any potential conduits exist that could spread contamination (e.g., water or sewer lines). Important: Identify the proposed location of all samples to be collected on the site diagram.

Site conditions:
The site assessment plan must address the possibility of encountering groundwater. If questionable, verify the depth to groundwater *and be prepared with contingency sampling should groundwater be encountered.*

- If there were to be a release of a regulated substance during the decommissioning process, could surface water be impacted, either directly or via conduits such as surface drainage systems? If yes, discuss strategy developed to prevent a discharge to surface water or other contingency plans. Any release that results in sheen to surface waters must be reported and cleaned up immediately.

Sample collection methods and analytical procedures:

- Describe the sample collection and analytical methods to be used for this project. The Hydrocarbon Identification analytical procedure specified in OAR 340-122-0218(1)(d) (NWTPH-HCID) must be used for determining whether a confirmed petroleum release exists and then quantified by the appropriate method. For hazardous substances other than petroleum, describe the specific analytical method to be used and sample collection procedures to be followed.

Soil sample locations:
The site assessment plan and site diagram must address where and how samples will be collected.

General Information

- The UST and associated systems must be evaluated for contamination in all areas where contamination is likely to be present. If contamination is observed or suspected *at any time* during decommissioning, samples must be collected from the contaminated soil.
- If water is present in the UST pit, regardless of whether obvious contamination is or is not present, the department must be notified of this fact within 24 hours of discovery.
- If contamination is discovered, the permittee must report the release to the department within 24 hours. If not reported within 24 hours, the licensed service provider must provide the required notice to the department within 72 hours. If contamination is found to be present, removal of the UST may be required.
- Note: This Appendix addresses site assessment plans only. Correct industry practices or codes, safety measures and report preparation requirements for actual decommissioning of the UST system must be complied with at all times.

USTs

- All areas exposed during the uncovering of the UST when it is cut open and cleaned must be examined for signs of contamination. The UST must also be examined for holes by doing an examination of the interior after cleaning. Holes in the UST may be an indication of leakage and contamination.
- For an individual UST, four samples must be collected; one each from beneath both ends of the tank and on each side or as otherwise directed by the department (e.g., only two may be required if collected through a hole cut in the bottom of the tank). For multiple USTs in the same pit, a minimum of one sample must be collected for each 100 square feet of area in the pit. Soil samples must be collected from the native soils located no more than two feet beneath the UST pit in areas where contamination is most likely to be found.

Piping and Dispensers

- In cases where UST components (e.g., underground piping or dispensers) are located above an area to be excavated as part of the UST decommissioning, the area must first be visually assessed and soil samples collected if contamination is observed or suspected before conducting the excavation work.
  - *For underground piping*, a minimum of two soil samples must be collected from the native soils directly beneath the areas where contamination is most likely to be found and must be collected at 20-foot intervals;
    - Include information about the fate of lines containing a regulated substance. Regulated substance line trenches must be opened up and visually assessed during removal of the underground piping and soil samples collected from impacted areas.
    - If lines that contained a regulated substance are to remain in-place, samples must be collected from the native soils directly beneath the areas where contamination is observed, in addition to samples collected at 20 lineal foot intervals beginning at the dispensers.
  - *For dispensers*, at least one soil sample must be collected from the native soils directly beneath each dispenser.
    - Dispenser areas must also be evaluated for signs of contamination during the process of removal. If contamination is observed or suspected, samples must be collected from the contaminated soil. If contamination is not observed, collect one sample from beneath each dispenser.

APPENDIX L
OAR 340-150-0200
Training Elements

The following topics must be covered in each UST system operator training session or by an equivalent training or testing method to meet UST system operation and maintenance training requirements:

(1) General overview of department UST program administrative requirements:

(a) Types of registration certificates (i.e., permits) and process for modification of registration certificates;

(b) Notification process and general technical requirements for new UST installation, decommissioning, equipment replacement and retrofits, confirmed releases, suspected releases (including confirmation steps for suspected releases) and other system or test failures;

(c) Annual UST compliance fees and invoicing process;

(d) General requirements for maintaining financial responsibility;
(e) Department process for inspections and technical assistance resources available; and
(f) Enforcement process for violations.
(2) General overview of other regulations pertaining to USTs, including, but not limited to, fire codes, occupational health and safety and any related industry practices pertaining to safety.
(3) Spill prevention and overfill protection:
(a) Rule requirements, including record keeping;
(b) Equipment requirements; and
(c) Operation and maintenance needs.~~; and~~
~~**(d) Overview of the emergency response items listed for UST facility attendants in OAR 340-150-0200(7).**~~
(4) Release detection: For each type of release detection method listed in OAR 340-150-0400 through 340-150-0470 for both USTs and underground piping:
(a) Rule requirements, including record keeping;
(b) Monitoring and equipment, including third party approval requirements; and
(c) Operation and maintenance requirements.
(5) Corrosion protection, galvanic and impressed current:
(a) UST rule requirements (OAR chapter 340, division 150), including record keeping;
(b) Equipment requirements; and
(c) Operation and maintenance needs, including periodic inspections and testing.
(6) Lined USTs:
(a) Rule requirements, including record keeping; and
(b) Operation and maintenance needs, including periodic inspections and testing.

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 151

FINANCIAL RESPONSIBILITY FOR USTS

340-151-0001
Purpose

(1) The purpose of these rules is to protect public health, safety, welfare and the environment from the potential harmful effects of spills and releases of petroleum from USTs by requiring UST owners and permittees to maintain sufficient financial resources in the event that corrective action or compensation for bodily injury or property damage is required.

Stat. Auth.: ORS 466.746 & 466.815
Stats. Implemented: ORS 466.815
Hist.: New

340-151-0010
Scope and Applicability

(1) Except as provided in section (2), an owner and permittee of a petroleum UST system that meets the requirements of OAR 340-150-0006 and that is not exempted or deferred by 340-150-0008, must comply with this division.

(2) State and federal government entities the debts and liabilities if which are the debts and liabilities of a state or the United States are exempt from the requirements of this division.

(3) If the owner and permittee of a petroleum UST are separate persons, only one of them is required to demonstrate financial responsibility. Both are, however, jointly liable in the event of noncompliance. Regardless of which person complies, the date set for compliance at a particular UST facility is determined by the characteristics of the owner as set forth in 40 CFR § 280.91.

(4) Each chamber or compartment of a multichamber or multicompartment UST is an individual tank for the purpose of OAR chapter 340, divisions 150 and 151.

Stat. Auth.: ORS 466.746 & 466.815
Stats. Implemented: ORS 466.815
Hist.: New

340-151-0015
Adoption and Applicability of United States Environmental Protection Agency Regulations

Except as otherwise modified or specified in this division, the rules of the United States Environmental Protection Agency governing the financial responsibility requirements for owners and operators of underground storage tanks in Title 40 CFR, Part 280, Subpart H in effect as of February 1, 2003 are adopted by the commission, incorporated by reference into this division, and applicable to all persons subject to this division. In addition to the Oregon-specific requirements in this division (OAR 340-151-0025), persons subject to this division must consult 40 CFR §§ 280.90 through 280.115 to determine applicable financial responsibility requirements.

Stat. Auth.: ORS 466.746 & 466.815
Stats. Implemented: ORS 466.815
Hist.: New

340-151-0020
Definitions

The definitions and terms used in OAR 340-150-0010 and 40 CFR § 280.92 apply to this division.

Stat. Auth.: ORS 466.746 & 466.815
Stats. Implemented: ORS 466.815
Hist.: New

[Note: When reading the following section please note that different text styles have been used to distinguish the different types of changes made. Oregon rules (OARs) are in **bold type**, *italicized text* is new language that has been added to existing federal requirements and existing federal language that is deleted is noted by ~~strike-through~~ formatting.]

340-151-0025
Oregon-Specific Financial Responsibility Requirements

The following rules **in bold type** substitute new language in lieu of or insert new language in addition to that in 40 CFR §§ 280.90 through 280.115:

(1) The term "owner and permittee" is substituted in lieu of the term "owner or operator" as that term is used throughout 40 CFR Part 280, Subpart H.

(2) The following terms are in addition to the definitions in 40 CFR § 280.92:

"Owner" means a person who currently owns an UST or owned an UST during the tank's operational life, including:

(1) In the case of an UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use or dispensing of regulated substances; and

(2) In the case of an UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

"Permittee" means the owner or person designated by the owner, who is in control of or has responsibility for daily UST system operation and maintenance, financial responsibility and UST operator training requirements under a general permit pursuant to OAR 340-150-0160 through 340-150-0168.

(3) The following requirement is in addition to 40 CFR § 280.97 (a) through (c):

(d) Each insurance policy or cover page must include the UST facility identification number issued by the department for each UST facility at which petroleum USTs are located.

(4) The following language is substituted in lieu of 40 CFR § 280.108 (b):

(b) ~~After obtaining alternate financial assurance as specified in this subpart, an owner or operator may cancel a financial assurance mechanism by providing notice to the provider of financial assurance.~~*Within 30 days after a substitution is made, the owner and permittee must:*

(1) Provide notice of cancellation of the previous financial assurance mechanism to the department and the former provider of financial assurance; and

(2) Provide a copy of the new financial responsibility mechanism to the department that

demonstrates full compliance with the requirements of this division.

(5) The following requirement is in addition to the notice requirement in the first sentence of 40 CFR § 280.109 (a):

(a) Except as otherwise provided, a provider of financial assurance may cancel or fail to renew an assurance mechanism by sending a notice of termination by certified mail to the owner or operator~~.~~, *with a copy provided to the department by first class mail delivery.*

(6) The following language is substituted in lieu of 40 CFR § 280.110 (a) (1):

(1) Within 30 days after the owner or operator identifies a release from an underground storage tank required to be reported under ~~§280.53 or §280.61~~*OAR 340-122-0205 through 340-122-0360.*

(7) The following requirements are in addition to 40 CFR § 280.110 (a)(1) through (a)(3):

(4) With an application to modify an UST general permit registration certificate as required by OAR 340-150-0052 for a change in owner or permittee; and

(5) Within 30 days after a new financial responsibility mechanism is obtained that replaces or substitutes for a previous mechanism as required by 40 CFR § 280.108.

(8) The following requirement is in addition to 40 CFR § 280.110 (a) through (c):

(d) An owner and permittee or provider of financial assurance on their behalf, must notify the department by 15 days after the end of the previous month in which any of the following changes to a liability insurance policy (as amended by endorsement or certificate of insurance) occur as a result of actions by the owner, permittee or insurer:

(1) Cancellation;

(2) Failure to renew; or

(3) Issuance of a new or modified insurance policy.

Stat. Auth.: ORS 466.746 & 466.815
Stats. Implemented: ORS 466.815
Hist.: New

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 160

~~REGISTRATION AND~~ LICENSING REQUIREMENTS FOR ~~UNDERGROUND STORAGE TANK~~ SERVICE PROVIDERS AND SUPERVISORS

340-160-0005

~~Authority, Purpose, and Scope~~

(1) ~~These rules are promulgated in accordance with and under the authority of ORS 466.750.~~

~~(2)~~ The purpose of these rules is to provide for the regulation of ~~companies and~~ persons performing services for underground storage tank (UST) systems ~~in order~~ to assure that ~~underground storage tank~~UST systems are being serviced in a manner which will protect the public health and welfare and the land and waters within the State of Oregon. These rules establish standards for:

(a) ~~Registration and l~~Licensing of ~~firms~~persons performing UST services ~~on underground storage tanks~~;

(b) Examination, qualification and licensing of individuals who supervise the performance of ~~tank~~UST services; and

(c) Administration and enforcement of these rules by the ~~D~~department.

(2~~3~~) ~~Scope:~~

~~(a) OAR 340-160-0005 through 340-160-0150~~Except as provided in section (3), this division applies to the installation, ~~retrofitting~~modification, decommissioning and testing~~, by any person,~~ of ~~underground storage tank~~USTs regulated under ~~by ORS 466.705 through 466.835 and~~ OAR ~~340-150-0001 through 340-150-0150~~chapter 340, division 150. ~~except as noted in subsection (3)(b) of this rule;~~

(b3) ~~OAR 340-160-0005 through 340-160-0150~~Except as provided by OAR 340-150-0156, this division does not apply ~~to service performed on the tanks identified in OAR 340-150-0015 or~~ to UST services performed by the ~~tank owner,~~ property owner, owner or permittee.

Stat. Auth.: ~~ORS 465.200 – ORS 465.320 &~~ ORS 466.7046 & ~~ORS 466.995~~750
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 15-1991, f. & cert. ef. 8-14-91

340-160-0010

Definitions

~~As used in these rules~~The definitions and terms used in OAR 340-150-0010 and this rule apply to this division:

~~(1) "Cathodic Protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. A tank system can be cathodically protected through the application of either galvanic anodes or impressed current.~~

~~(2) "Commission" means the Environmental Quality Commission.~~

~~(3) "Decommissioning or Removal" means to remove an underground storage tank from operation, either temporarily or permanently by abandonment in place or by removal from the ground.~~

~~(4) "Department" means the Department of Environmental Quality.~~

~~(5) "Director" means the Director of the Department of Environmental Quality.~~

~~(6) "Facility" means the location at which underground storage tanks are in place or will be placed. A facility encompasses the entire property contiguous to the underground storage tanks that is associated with the use of the tanks.~~

~~(7) "Fee" means a fixed charge or service charge.~~

~~(8) "Firm" means any business including but not limited to corporations limited partnerships and sole proprietorships engaged in the performance of tank services.~~

~~(9) "Installation" means the work involved in placing an underground storage tank system or any part thereof in the ground and preparing it to be placed in service.~~

~~(10) "Licensed" means that a firm or an individual with supervisory responsibility for the performance of tank services has met the Department's experience and qualification requirements to offer or perform services related to underground storage tanks and has been issued a license by the Department to perform those services.~~

~~(11) "Retrofitting" means the modification of an existing underground storage tank including but not limited to the replacement of monitoring systems, the addition of cathodic protective systems tank repair, replacement of piping, valves, fill pipes, or vents and the installation of tank liners.~~

(1) *"Person"* means an individual, trust, firm, joint stock company, corporation, partnership, joint venture, consortium, association, state, municipality, commission, political subdivision of a state or any interstate body, any commercial entity or the federal government or any agency of the federal government.

(2) *"Service provider"* means a person licensed by the department to offer to perform or perform UST services on USTs regulated under OAR chapter 340, division 150.

(~~12~~3) *"Supervisor"* means an ~~licensed~~ individual ~~operating alone or employed by a contractor and charged with the responsibility~~licensed by the department to direct and oversee ~~the performance of tanks~~specific UST services ~~at a facility~~.

(~~13~~4) *"~~Tank~~UST Sservices"* includes ~~but are not limited to~~without limitation, ~~tank~~ installation, decommissioning, ~~retrofitting~~modification, testing (e.g., cathodic protection and tank tightness), and inspection of UST systems.

~~(14) "Tank Services Provider" is an individual or firm registered and, if required, licensed to offer or perform tank services on regulated underground storage tanks in Oregon.~~

~~(15) "Testing" means the application of a method to determine the integrity of an underground storage tank.~~

~~(16) "Tightness testing" means a procedure for testing the ability of a tank system to prevent an inadvertent release of any stored substance into the environment (or in the case of an underground storage tank system intrusion of groundwater into a tank system).~~

~~(17) "Underground Storage Tank" or "UST" means an underground storage tank as defined in OAR 340-150-0010(15). and is not an exempted tank as defined in OAR 340-150-0015.~~

Stat. Auth.: ORS 466.7046 &- ~~ORS~~ 466.995750
Stats. Implemented: ORS 466.7046 & ~~ORS~~ 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 21-1989(Temp), f. & cert. ef. 9-18-89; DEQ 11-1990, f. & cert. ef. 3-13-90

340-160-0020
General Provisions

(1) ~~After May 1, 1989 no firm shall offer or perform tank services in the State of Oregon without having first registered with the Department.~~

~~(2) After September 1, 1989, no tank services provider~~ A person may not ~~install, retrofit~~modify ~~or decommission an underground storage tank~~UST~~s~~perform or offer to perform UST services ~~in the State of Oregon~~ without first obtaining a license from the ~~D~~department.

~~(3) After May 1, 1990, no tank services provider shall offer to test or perform a test on an underground storage tank without first having obtained a license from the Department.~~

~~(4) After the required date any tank services provider offering to perform tank services must have registered with or been licensed by the Department. Proof of registration and or licensing must be available at all times a tank services provider is performing tank services.~~

(~~5~~2) ~~After the required date, a tank~~ services provider ~~registered and/or licensed to perform tank services~~ is prohibited from offering or performing ~~tank~~UST services on an UST system defined by OAR 340-150-0010(84) (except as exempted or deferred by OAR 340-150-0008),~~regulated tanks~~ unless ~~a regulated tank~~the owner and permittee of the UST system ~~have~~s been issued a general permit registration certificate by the ~~D~~department.

(~~3~~6) ~~Any tank~~ services provider ~~licensed or certified by the Department under the provisions of these rules shall~~must:

(a) Comply with ~~the appropriate provisions of OAR 340-160-0005 through 340-160-0050~~this division;

(b) Have proof of current license available when UST services are performed;

(~~b~~c) Maintain a current address on file with the ~~D~~department; and

(~~c~~d) Perform ~~tank~~UST services in a manner ~~which~~that conforms with all federal and state regulations applicable at the time the services are being performed.

(~~4~~7) A ~~firm registered or, if required, licensed to perform tank~~ services provider must submit a checklist on a form provided by the department to the ~~D~~department within 30 days, or as otherwise required for the UST owner and permittee, following the completion of a ~~tank~~UST ~~installation, retrofit, testing, or decommissioning~~ services. In addition, the service provider must meet the following requirements:

(a) ~~The checklist will be made available on a form provided by the Department;~~

~~(b) The~~All ~~installation, retrofit testing and decommissioning~~ checklists must be signed by an executive officer of the ~~firm~~service provider and~~, following September 1, 1989 by~~ the ~~licensed tank services~~ supervisor of the project; and

(~~c~~b) An as-built drawing of the completed ~~tank~~UST installation or ~~retrofit~~modification must ~~shall~~ be ~~provided~~included with ~~any installation and retrofit~~the associated checklist.

(~~5~~8) A ~~licensed tank services~~ supervisor ~~shall~~must be present ~~at a tank~~during UST installation~~,~~ and ~~retrofit~~modification ~~project~~ when the following ~~project~~ tasks are being performed:

(a) Preparation of the excavation immediately before~~prior to~~ receiving backfill and ~~the~~ placement of the tank into the excavation;

(b) Any movement of the tank ~~vessel~~, including but not limited to, transferring the tank ~~vessel~~ from the vehicle used to transport it to the project site;

(c) Setting of the tank and its associated piping into the excavation, including placement of any anchoring devices, backfill to the level of the tank~~,~~ and strapping, if any;

(d) Placement and connection of the piping system to the tank ~~vessel~~;

(e) Installation of cathodic protection;

(f) All pressure testing of the ~~underground storage tank~~UST system, including associated

piping, performed during the installation or ~~retrofitting~~modification;

(g) Completion of the backfill and filling of the ~~installation~~excavated area around the installed UST;

(h) Preparation for and installation of any tank lining systems; and

(i) ~~Tank~~UST excavation.

(6~~9~~) A ~~licensed tank services~~ supervisor ~~shall~~must be present ~~at~~during an UST ~~tank~~ decommissioning ~~project~~ when the following ~~project~~ tasks are being performed:

(a) ~~Tank~~UST excavation;

(b) Removal and capping of vent and product lines;

(c) Cleaning the ~~tank~~UST and removal of ~~tank~~ contents;

(d) Tank purging or inerting;

(e) Any movement of the tank ~~vessel~~, including but not limited to transferring the tank ~~vessel~~ to the vehicle used to transport it from the project site; and

(f) Collection of ~~contaminated~~ soil; and water ~~and media~~ samples ~~during decommissioning~~.

(7~~10~~) A ~~licensed tank services~~ supervisor ~~shall~~must be present during the testing of an ~~underground storage tank~~UST cathodic protection system.

(8~~11~~) A ~~licensed tank services~~ supervisor ~~shall~~must be present during the ~~leak detection~~tank tightness testing of an ~~underground storage tank~~UST system performed under **~~40 CFR 280.40~~**OAR 340-150-0445.

(~~12~~9) A ~~licensed tank~~ services provider ~~shall~~must report to the department the existence of any condition relating to an ~~underground tank~~UST system that has or may result in a release ~~of the tank's contents~~ to the environment. ~~This report shall be provided to the Department~~ within 72 hours of ~~the~~ discovery of the condition.

(1~~3~~0) The requirements of this ~~part~~section are in addition to and not in lieu of any other licensing ~~and registration~~ requirement imposed by law.

~~**NOTE:** Additional Oregon licenses may be required when working on underground storage tanks. See Construction Contractors License requirements in OAR 812-002-0000 through 812-002-0030 and Monitoring Well Constructor License requirements in OAR 690-240-0005 through 690-240-0180.~~

~~[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]~~

Stat. Auth.: ~~ORS 465.200 - ORS 465.320 &~~ ORS 466.7046 & ~~ORS~~ 455~~66~~.995~~750~~

Stats. Implemented: ORS 466.7046 & ~~ORS~~ 466.750

Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 15-1991, f. & cert. ef. 8-14-91

340-160-0025

Types of Licenses

(1) The ~~D~~department may issue the following types of licenses:

(a) ~~Tank~~ Services ~~P~~provider;

(b) Installation ~~S~~supervisor~~ion of Tank Installation and Retrofitting~~;

(c) Decommissioning ~~S~~supervisor~~ion of Tank Decommissioning~~;

(d) ~~Supervision of~~ Tank ~~System T~~tightness ~~T~~testing supervisor; and

(e) ~~Supervision of~~ Cathodic ~~P~~protection ~~S~~system ~~T~~testing supervisor.

(2) ~~A l~~Licenses will be issued ~~to firms and individual~~persons ~~who meet the qualification requirements, submit an application and pay the required fee~~ in accordance with the requirements of OAR 340-160-0030 for service providers and 340-160-0035 for supervisors.

Stat. Auth.: ORS 466.746 & 466.750
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89

340-160-0030

~~Registration and~~ Licensing of ~~Tank~~UST Services Providers

(1) ~~On or before May 1, 1989, all firms offering or performing tank services in the State of Oregon shall register with the Department.~~

~~(2) Registration shall be accomplished by:~~

~~(a) Completing a registration application provided by the Department; or~~

~~(b) Submitting the following information to the Department:~~

~~(A) The name address and telephone number of the firm;~~

~~(B) The nature of the tank services to be offered;~~

~~(C) A summary of the recent project history of the firm (the two year period immediately preceding the application) including the number of projects completed by the firm in each tank services category and identification of any other industry or government licenses held by the firm related to specific tank services;~~

~~(D) Identifying the names of employees or principals responsible for on-site project supervision.~~

~~(c) Including a signed statement that certifies that:~~

~~**"I (name), am the chief executive officer of (company), and do hereby certify that I have obtained a copy of the applicable laws and rules pertaining to the regulation of underground storage tanks in the State of Oregon and that I have read them and will direct the employees and principals of this company to perform the tank services rendered by this company in a manner that is consistent with their requirements."**~~

~~(d) Remitting the required registration fee.~~

~~(3) After July 1, 1989, firms installing, retrofitting and/or decommissioning underground storage tanks may apply for a tank services provider license from the Department.~~

~~(4) After March 1, 1990, firms testing underground storage tanks may apply for a tank services provider license from the Department.~~

~~(5)~~ To apply for a service provider license, a person must submit a~~A~~n application ~~for a tank services providers license shall~~to the department on a form provided by the department ~~contain~~that includes:

~~(a) The information required by OAR 340-160-0030(2)(b), (c) and (d);~~

(a) The name, address and telephone number of the applicant;

(b) The category(ies) of UST services to be performed;

(c) A summary of the UST services provided by the applicant within the two year period immediately preceding the application, including the number of UST service projects completed in each category of UST services and identification of any other industry or government licenses held by the applicant related to specific UST services;

(~~b~~d) A list of employees with supervisor license~~d by the Department to perform and supervise tank services~~, ~~an identification of~~ the specific ~~tank~~UST services for which they are

licensed, the date the employee received a license from the ~~D~~department~~,~~ and ~~the number of the~~ each employee's license number;

(e) A signed statement that certifies that:

"I [insert name], am the chief executive officer of [insert company name] and do hereby certify that I have obtained a copy of the applicable laws and rules pertaining to the regulation of underground storage tanks in the State of Oregon and that I have read them and will direct the employees and principals of this company to perform the UST services rendered by this company in accordance with those laws and rules"; and

(~~e~~f) ~~Remitting t~~The required license~~ing~~ fee.

(~~6~~2) The ~~D~~department will review the application for completeness. If the application is incomplete, the ~~Department shall notify the~~ applicant will be notified in writing of the deficiencies.

(~~7~~3) The ~~D~~department ~~shall~~may deny, in writing, a license to an ~~tank services provider~~applicant who has not satisfied the license application requirements.

(~~8~~4) If the application is approved, a service provider ~~The Department shall issue a~~ license will be issued to the applicant ~~after the application is approved~~. The license is valid

~~(9) The Department shall grant a license~~ for a period of ~~24~~12 months.

(~~10~~5) ~~Renewals:~~

~~(a)~~ License renewals must be applied for in the same manner as ~~is~~ required for an initial license~~;~~, except the service provider must submit

~~(b)~~ T~~t~~he complete renewal application ~~shall be submitted no later than 30 days prior~~ to the department at least 30 days before the expiration date of the current license.

(~~11~~6) The ~~D~~department may suspend, ~~or~~ revoke or refuse to issue a license if the ~~tank~~ services provider:

(a) Fraudulently obtains or attempts to obtain a license;

(b) Fails at any time to satisfy the requirements for a license or to comply with the rules ~~adopted by the Commission~~of this division or OAR chapter 340, division 150;

(c) Fails to meet any applicable state or federal standard relating to the UST services performed under the license; or

(d) Fails to employ and designate a licensed supervisor for each UST service project.

(~~12~~7) A ~~tank~~ services provider who has a license suspended or revoked may reapply for a license after demonstrating to the ~~D~~department that the cause of the suspension or revocation has been resolved.

(~~13~~8) I~~fn the event~~ a ~~tank~~ services provider no longer employs a licensed supervisor, the ~~tank~~ services provider must immediately cease providing UST services ~~stop work on any regulated underground storage tank system~~. The service provider cannot provide UST services until ~~Work shall not start until~~ a licensed supervisor is again employed by the service provider and written notice of the hiring of a licensed supervisor is received by the ~~D~~department.

Stat. Auth.: ORS 466.746 & 466.750
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89

340-160-0035

Supervisor ~~Examination and~~ Licensing

(1) To obtain a license from the ~~D~~department to supervise the installation, ~~retrofitting,~~

decommissioning or testing of an ~~underground storage tank~~UST, an individual must ~~:~~

~~(a) Take and pass a qualifying examination approved by the Department; or~~

~~(b) Meet the requirements for licensing by reciprocity by providing proof, acceptable to the Department. The applicant must:~~

~~(A) Successfully pass an equivalent supervisors examination in another jurisdiction; and~~

~~(B) Demonstrate knowledge of applicable Oregon rules and regulations.~~

~~(2) Applications for Supervisor Licenses -- General Requirements:~~

~~(a) Applications must be~~ submitted an application to the ~~D~~department on a form provided by the department within 30 days of passing the qualifying examination.~~;~~

~~(b) Applications shall be submitted on forms prescribed by the Department and shall be accompanied by~~ The application must include the appropriate fee ~~.~~

~~(3) The application to be a Licensed Supervisor shall include:~~

~~(a)~~ and ~~D~~documentation that the applicant ~~has successfully~~ passed the applicable ~~S~~supervisor examination~~;~~

~~(b) Any additional information that the Department may require~~.

(~~2~~4) A supervisor license is valid for ~~a period of~~ 24 months ~~after the date of issue~~.

(~~3~~5) ~~Renewals —~~License renewals must be applied for in the same manner as ~~the~~ application for the original license, including re-examination, except the supervisor ~~and~~ must ~~be~~ submitted the renewal application to the department at least 30 days before the current license expires.

(~~4~~6) The ~~D~~department may suspend or revoke a ~~S~~supervisor's license for failure to comply with any state or federal rule or regulation pertaining to the management of underground storage tanks.

~~(7)~~ If a ~~S~~supervisor's license is revoked, ~~an~~the individual may not reapply ~~for another supervisor license prior to~~less than 90 days after the revocation date.

(~~5~~8) Upon issuance of a ~~S~~supervisor~~'s~~ license, ~~the Department shall issue~~ an identification card ~~to all successful applicants~~will be provided ~~which~~that shows the license number and license expiration date for each UST services category.

(~~6~~9) A ~~The~~ supervisor~~'s~~ must have his or her current license identification card ~~shall be~~ available for inspection during ~~at~~ each UST service project ~~site~~.

Stat. Auth.: ~~ORS 465.200 - ORS 465.995 &~~ ORS 466.70~~4~~6 ~~-~~& ~~ORS~~ 466.995~~750~~
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 15-1991, f. & cert. ef. 8-14-91

340-160-0040
Supervisor Examinations

(1) To apply for a license from the department to supervise the installation, decommissioning or testing of an UST, an individual must take and pass a qualifying examination approved by the department.

(2) In lieu of the requirements of section (1), an applicant may meet the requirements for licensing by reciprocity by providing proof acceptable to the department that the applicant has:

(a) Successfully passed an equivalent supervisor examination in another jurisdiction; and

(b) Demonstrate knowledge of applicable Oregon rules and regulations.

~~At least once prior to September 1, 1989, and twice every year thereafter, the Department shall offer a qualifying examination for any person who wishes to become licensed to install, remove, or retrofit underground storage tanks.~~

~~(2) At least once prior to March 1, 1990, and twice every year thereafter, the Department shall offer a qualifying examination for any person who wishes to become licensed to test underground storage tanks.~~

~~(3) Not less than 30 days prior to offering an examination, the Department shall prepare and make available to interested persons, a study guide which may include sample examination questions.~~

~~(4) The Department shall develop and administer the qualifying examinations in a manner consistent with the objectives of this section.~~

Stat. Auth.: ORS 466.746 & 466.750
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89

340-160-0054
Reciprocity with Other Jurisdictions

The ~~D~~department may develop agreements with other jurisdictions for the purposes of establishing reciprocity in training, licensing, and certification if the ~~D~~department finds that the training, licensing and certification standards of the other jurisdictions are at least as stringent as those required by thisese ~~rules~~ division.

Stat. Auth.: ~~ORS 465.200 - ORS 465.320 &~~ ORS 466.7046 ~~-~~& ~~ORS~~ 466.995750
Stats. Implemented: ORS 466.750
Hist.: DEQ 15-1991, f. & cert. ef. 8-14-91

340-160-0150
Fees

(1) ~~Fees shall be assessed to provide revenues to operate the underground storage tank services licensing program. Fees are assessed for the following:~~

~~(a) Tank Services Provider;~~

~~(b) Supervisor Examination;~~

~~(c) Supervisor License;~~

~~(d) Examination Study Guides.~~

~~(2) Tank services providers shall pay a non-refundable registration fee of $25.~~

~~(3) Tank services providers shall pay a~~The non-refundable ~~license~~ application fee ~~of~~for a service provider license is $~~1~~300 ~~for a 24 month license~~.

~~(4) Individuals taking the supervisor licensing qualifying examination shall pay a non-refundable examination fee of $25.~~

(5~~2~~) ~~Individuals seeking to obtain a supervisor's license shall pay a~~The non-refundable ~~license~~ application fee ~~of~~for a supervisor license is $~~25~~150 ~~for a two year license~~. This fee covers up to four supervisor license categories, if the expiration date is the same for all license categories.

~~(6) Examination study guides shall be made available to the public for the cost of production.~~

Stat. Auth.: ~~ORS 465.200 - ORS 465.320 &~~ ORS 466.70456 ~~-~~& ~~ORS~~ 466.995750
Stats. Implemented: ORS 466.750
Hist.: DEQ 3-1989, f. & cert. ef. 3-10-89; DEQ 15-1991, f. & cert. ef. 8-14-91

340-012-0067

Underground Storage Tank and Heating Oil Tank Classification of Violations

Violations pertaining to ~~U~~under-ground ~~S~~storage ~~T~~tanks (UST) systems and ~~cleanup of petroleum contaminated soil at~~ heating oil tanks ~~shall be~~ are classified as follows:

(1) Class One:

(a) Violation~~g~~ ~~of~~ a requirement or condition of a ~~C~~commission or ~~D~~department ~~O~~order;

(b) Failure to report a release or suspected release from an ~~under-ground storage tank~~UST system or a heating oil tank ~~as required by statute, rule or permit~~;

(c) Failure to perform an investigation or confirmation of a suspected release;

(d) Failure to establish or maintain the required financial responsibility mechanism;

(~~e~~e) Failure to initiate and complete the investigation or cleanup of a release from an ~~underground storage tank~~UST system or a heating oil tank;

~~(d) Failure to prevent a release from an underground storage tank;~~

(~~e~~f) Failure to submit ~~required~~ reports from the investigation or cleanup of a release from an ~~underground storage tank~~UST system or heating oil tank;

(~~f~~g) Failure to provide or allow access to premises or records ~~when required by law, rule, permit or order~~;

(h) Failure to apply for and be issued the appropriate general permit registration certificate before decommissioning, installing or operating an UST, not otherwise classified;

~~(g) Placement of a regulated material into an unpermitted underground storage tank;~~

(i) Failure to install spill and overfill protection equipment that will prevent a release or to be able to demonstrate to the department that the equipment is properly functioning;

(j) Failure to install, operate or maintain a method or combination of methods for release detection for an UST system such that the method can detect a release from any portion of the UST system;

(k) Failure to install or use equipment that is properly designed and constructed to protect any portion of the UST or piping from corrosion;

(l) Failure to operate and maintain corrosion protection such that it continuously provides protection to the UST system;

(m) Failure to permanently decommission an UST system;

(n) Failure to obtain approval from the department before installing or operating vapor or groundwater monitoring wells as part of a release detection method;

(~~h~~o) Install~~ation~~ing, repairing, replacing or modifying an ~~underground storage tank~~UST system in violation of ~~the standards or proceduresany~~ rule adopted by the ~~D~~department, not otherwise classified;

(p) Systematic failure to conduct testing, monitoring or to keep records;

(~~i~~q) Failure to initiate and complete free product removal in accordance with OAR 340-122-0235;

(~~j~~r) Providing installation, ~~retrofittingmodification~~, repair, replacement, decommissioning~~,~~ or testing services on an ~~underground storage tank~~UST system or providing soil matrix cleanup services ~~of petroleum contaminated soil~~ at an ~~underground storage tank~~UST facility without ~~first registering or obtaining an underground storage tank~~an UST service or soil matrix cleanup service providers license;

(s) Using fraud or deceit to obtain an UST service provider, soil matrix cleanup service provider, heating oil tank service provider or supervisor license or demonstrating negligence or incompetence in performing UST or other tank services;

~~(k) Supervising the installation, retrofitting, decommissioning, or testing of an underground storage tank or supervising cleanup of petroleum contaminated soil at an underground storage tank facility without first obtaining an underground storage tank supervisors license;~~

(t) Failure to assess the excavation zone of a decommissioned or abandoned UST when directed to do so by the department; and

(~~l~~u) Any other violations related to ~~underground storage tanks~~UST systems or heating oil tanks ~~or cleanup of petroleum contaminated soil at heating oil tanks which~~ that cause or poses a ~~major risk of~~significant harm to public health ~~and~~or the environment.

(2) Class Two:

(a) Failure to conduct ~~required underground storage tank~~release detection monitoring and testing activities for USTs or piping, not otherwise classified;

(b) Failure to conduct corrosion protection monitoring and testing activities for USTs or piping, not otherwise classified;

(~~b~~c) Failure to conform to ~~operational~~performance standards and requirements and third party evaluation and approval for UST system ~~underground storage tanks and leak~~release detection methods or equipment~~systems~~ or corrosion protection equipment, not otherwise classified;

(d) Continuing to use a method or methods of release detection after period allowed by rule has expired;

(e) Failure to use or maintain spill or overfill prevention equipment, not otherwise classified;

(f) Failure to meet all requirements for a financial responsibility mechanism, not otherwise classified;

(g) Failure to have a trained UST system operator for an UST facility after ~~January~~March 1, 2004;

~~(c) Failure to obtain a permit prior to the installation or operation of an underground storage tank;~~

(h) Failure to apply for a modified general permit registration certificate;

(i) Failure to have an operation certificate for all compartments or chambers of a multichambered or multicompartment UST when at least one compartment or chamber has an operation certificate;

(~~d~~j) ~~Decommissioning, i~~Installing, repairing, replacing or ~~retrofitting~~modifying an ~~underground storage tank~~UST or UST equipment or conducting a soil matrix cleanup without ~~first~~ providing the required notifications ~~to the Department~~;

(~~e~~k) Failure to decommission an UST in compliance with the statutes and rules adopted by the department, including, but not limited to, performance standards, procedures, notification, general permit registration and site assessment requirements~~Failure to properly decommission an underground storage tank~~;

(~~f~~l) Providing installation, ~~retrofitting~~modification, decommissioning or testing services on an ~~regulated underground storage tank~~UST system or providing soil matrix cleanup services ~~of petroleum contaminated soil~~ at an ~~regulated underground storage tank~~ UST facility that does not have ~~a permit~~the appropriate general permit registration certificate;

(gm) Failure by a ~~seller or~~ distributor to obtain the ~~tank permit~~identification number for each UST and operation certificate number before depositing ~~product~~a regulated substance into ~~the underground storage tank~~an UST ~~or failure to maintain a record of the permit numbers~~;

(n) Failure by a distributor to maintain a record of all USTs into which it deposited a regulated substance;

(~~h~~o) Allowing the installation, ~~retrofitting~~modification, decommissioning~~,~~ or testing of an ~~underground storage tank~~UST system or soil matrix cleanup ~~of petroleum contaminated soil~~ at an UST facility ~~underground storage tank~~ by any person not licensed by the department;

(p) Failure to provide information as required by OAR 340-150-0135(6) or as requested by the department;

(q) Failure to submit checklists or reports for UST installation, modification or suspected release confirmation activities;

(r) Failure to comply with integrity assessment inspection schedules or requirements for internally lined USTs;

(~~i~~s) Allowing ~~cleanup of petroleum contaminated soil~~the performance of heating oil tank services or supervision at a heating oil tank by any person not licensed by the ~~D~~department;

(~~j~~t) Providing ~~petroleum contaminated soil cleanup~~heating oil tank services at a heating oil tank without ~~first registering or obtaining~~ a ~~soil matrix cleanup~~heating oil tank service provider or supervisor license;

~~(k) Providing supervision of petroleum contaminated soil at a heating oil tank without first registering or obtaining a soil matrix cleanup supervision license;~~

~~(l) Supervising petroleum contaminated soil cleanup services at a heating oil tank without first registering or obtaining a soil matrix cleanup supervisor license;~~

(~~m~~u) Failure to submit a corrective action plan (CAP) in accordance with the schedule or format established by the ~~D~~department pursuant to OAR 340-122-0250;

(v) Failure by an owner or permittee to pass the appropriate national examination before performing installation, decommissioning or testing services on an UST system;

(w) Supervising the installation, modification, repair, replacement, decommissioning, testing or soil matrix cleanup of an UST system without a supervisor license;

(~~n~~x) Failure by ~~the~~an ~~tank~~ owner or permittee to provide the ~~permit~~ identification number for each UST or operation certificate number to persons depositing ~~product~~a regulated substance into ~~the underground storage tank~~an UST; and

(~~o~~y) Any other violation related to ~~underground storage tanks~~UST systems or heating oil tanks ~~or cleanup of petroleum contaminated soil at a heating oil tank that is~~ not otherwise classified ~~in these rules~~.

(3) Class Three:

~~(a) Failure of a new owner of an underground storage tank to submit an application for a permit modification or a new permit;~~

(~~b~~a) Failure ~~of~~by a person who ~~tank~~ ~~seller or product distributor~~ an UST to notify ~~a~~the new ~~tank~~ owner or ~~operator~~permittee of the ~~D~~department's general permit registration requirements;

(b) Failure to maintain release detection records for USTs or piping if the failure does not constitute a significant operational compliance violation;

(c) Failure to maintain required manufacturer's information or third party evaluation documents for approved methods or equipment;

(d) Failure to maintain training records for an UST system operator; and

(e) Failure to keep records of UST system repair, modification or replacement work.

~~(c) Failure to provide information to the Department regarding the contents of an underground storage tank;~~

~~(d) Failure to maintain adequate decommissioning records.~~

Stat. Auth.: ORS 466.746, 466.994 & ~~ORS~~ 468.020

Stats. Implemented: ORS 466.7060 - 466.770, 466.805 - 466.835 & 466.895994
Hist.: DEQ 2-1988, f. 1-27-88, cert. ef. 2-1-88; DEQ 22-1988, f. & cert. ef. 9-14-88; DEQ 4-1989, f. & cert. ef. 3-14-89; DEQ 15-1990, f. & cert. ef. 3-30-90; DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 21-1992, f. & cert. ef. 8-11-92; DEQ 4-1994, f. & cert. ef. 3-14-94; DEQ 19-1998, f. & cert. ef. 10-12-98

Oregon Department of Environmental Quality

DIVISION 122

HAZARDOUS SUBSTANCE REMEDIAL ACTION RULES
Cleanup Rules for Leaking Petroleum UST Systems

340-122-0210
Definitions

Terms not defined in this rule have the meanings set forth in ORS 465.200 and 466.706. Additional terms are defined as follows unless the context requires otherwise:

(1) *"Above-Ground Release"* means any release to the land surface or to surface water. This includes, but is not limited to, releases from the above-ground portion of a petroleum UST system and releases associated with overfills and transfer operations during petroleum deliveries to or dispensing from a petroleum UST system.

(2) *"Acceptable Risk Level"* has the meanings set forth in OAR 340-122-0115(1) through (6).

(3) *"Ancillary Equipment"* means any device, including but not limited to, piping, fittings, flanges, valves, and pumps, used to distribute, meter, or control the flow of petroleum to and from a petroleum UST system.

(4) *"Aquatic Sediments"* means any collection of fine-, medium-, and coarse-grained minerals and organic particles that are found within aquatic habitats.

(5) *"Below-Ground Release"* means any release to the land subsurface having concentrations detected by the Northwest Total Petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID, DEQ, December 1996), or to groundwater having concentrations detected by any appropriate analytical method specified in OAR 340-122-0218. This includes, but is not limited to, releases from the below-ground portion of a petroleum UST system and releases to the land subsurface or groundwater associated with overfills and transfer operations as the petroleum is delivered to or dispensed from a petroleum UST system.

(6) *"Buildings"* means any structure occupied by residents, workers, or visitors, including convenience stores for retailing of food. For purposes of these rules, *"buildings"* does not include service station kiosks ~~under~~less than 45 square feet in size if the kiosk is exclusively dedicated to services for motor vehicles.

(7) *"Certified Drinking Water Protection Area"* ~~is~~means an area that has been delineated by the Oregon Health Division in accordance with OAR 333-061-0057 and certified by the ~~D~~department in accordance with OAR 340-040-0180.

[Note: To obtain information about certified drinking water protection areas, contact the Oregon Health Division's Drinking Water Program (503-731-4010).]

(8) *"Confirmed Release"* means petroleum contamination observed in soil or groundwater as a sheen, stain, or petroleum odor, or petroleum contamination detected in soil by the Northwest Total Petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID, DEQ, December 1996), or detected in groundwater by any appropriate analytical method specified in OAR 340-122-0218.

(9) *"Contaminant of Concern"* means a hazardous constituent contained in petroleum present at a concentration posing a potentially unacceptable risk to public health, safety, or welfare or the environment.

(10) *"Engineering Control"* means a remedial method used to prevent or minimize exposure to petroleum and hazardous substances, including technologies that reduce the mobility or migration of petroleum and hazardous substances. Engineering controls may include, but are not limited to, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

(11) *"Excavation Zone"* means an area containing a petroleum UST system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the petroleum UST system is placed at the time of installation.

(12) *"Free Product"* means non-aqueous phase liquid petroleum.

(13) *"Gasoline"* means any petroleum distillate used primarily for motor fuel of which more than 50 percent of its components have hydrocarbon numbers of C10 or less. For purposes of OAR 340-122-0205 through 340-122-0360, the concentration of gasoline in soil or groundwater is the level determined by the Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

(14) *"Groundwater"* means any water, except capillary moisture, beneath the land surface or beneath the bed of any stream, lake, reservoir, or other body of surface water within the boundaries of the state, whatever may be the geological formation or structure in which such water stands, flows, percolates or otherwise moves.

(15) *"Hazardous Substance"* has the meaning set forth in OAR 340-122-0115(30).

(16) *"Heating Oil"* means petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, or No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); or other fuels when used as substitutes for one of these fuel oils.

(17) *"Heating Oil Tank"* means any one or combination of underground tanks and above-ground or underground pipes connected to the tank, which is used to contain heating oil used for space heating a building with human habitation, or water heating not used for commercial processing.

(18) *"Institutional Control"* means a remedial method such as a legal or administrative tool or action used to reduce the potential for exposure to petroleum and hazardous substances. Institutional controls may include, but are not limited to, use restrictions and site access and security measures.

(19) *"Motor Fuel"* means petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or 2 diesel fuel, or any grade of gasohol, typically used in the operation of a motor engine.

(20) *"Native Soil"* means the soil outside of the immediate boundaries of the pit that was originally excavated for the purpose of installing an underground storage tank.

(21) *"Non-Gasoline Fraction"* means diesel and any other petroleum distillate used for motor fuel or heating oil, of which more than 50 percent of its components have hydrocarbon numbers of C11 or greater. For purposes of OAR 340-122-0205 through 340-122-0360, the concentration of non-gasoline fraction in soil or groundwater is the level determined by the Northwest Total Petroleum Hydrocarbon Method NWTPH-Dx.

(22) *"Petroleum"* or *"oil"* means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions, including gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute. *"Petroleum"* does not include any substance identified as a hazardous waste under 40 CFR Part 261.

(23) *"Petroleum UST System"* has the same meaning as given in OAR 340-150-0010(55). ~~means any one or combination of tanks, including underground pipes connected to tanks, used to contain an accumulation of petroleum and the volume of which, including the volume of underground pipes connected to the tank, is ten percent or more beneath the surface of the ground. *"Petroleum UST System"* also includes associated ancillary equipment and containment systems.~~

(24) *"Remediation"* or *"Remedial Measures"* include *"remedial action"* as defined in ORS 465.200(22), *"removal"* as defined in ORS 465.200(24)~~,~~ and *"corrective action"* as defined in ORS 466.706(3).

(25) *"Remediation Level"* means a concentration of petroleum or petroleum constituents in environmental media such as soil and groundwater that alone, or in combination with institutional controls or engineering controls, is determined to be protective of public health, safety~~,~~ and welfare and the environment in accordance with this division.~~these rules.~~

(26) *"Residential Heating Oil Tank"* ~~is~~means a heating oil tank used primarily for single-family dwelling purposes.

(27) *"Responsible Person"* includes *"owner"* as defined in ~~ORS 466.706(13)~~OAR 340-150-0010(51), *"permittee"* as defined in ~~ORS 466.706(14)~~OAR 340-150-0010(52), *"owner or operator"* as defined in ORS 465.200(19)~~,~~ and any other person liable for or voluntarily undertaking remediation under ORS 465.200, et seq. or ORS 466.706, et seq.

(28) *"Risk-Based Concentration"* means a concentration of petroleum or petroleum constituents in environmental media such as soil and groundwater that is determined to be protective of public health, safety~~,~~ and welfare and the environment in accordance with these rules without requiring institutional controls or engineering controls.

(29) *"Soil"* means any unconsolidated geologic materials including, but not limited to, clay, loam, loess, silt, sand, gravel~~,~~ and tills or any combination of these materials.

(30) *"Surface Water"* means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, wetlands, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon~~,~~ and all other bodies, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction.

(31) *"Suspected Release"* means ~~evidence of a release~~those conditions as described in ~~40 CFR § 280.50~~OAR 340-150-0500.

(32) *"Underground storage tank"* or *"UST"* means any one or combination of tanks (including connected underground pipes) that is used to contain an accumulation of regulated substances and the volume of which (including the volume of connected underground pipes) is 10 percent or more beneath the surface of the ground.

[Note: ~~40 CFR § 280.50~~OAR 340-150-0500 requires owners and ~~operators~~permittees of UST systems to report suspected releases to the department. ~~Suspected releases generally include: the discovery by owners, operators or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water); unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank); and monitoring results from a release detection method that indicates a release may have occurred.~~Owners and

permittees must refer to OAR chapter 340, division 150 for complete information on requirements for underground storage tanks.]

~~[Publications: Publications referenced in this rule are available from the agency.]~~

Stat. Auth.: ORS 465.400 & ~~ORS~~ 466.746
Stats. Implemented: ORS 465.200, ~~ORS 465.455 & ORS~~ 466.706 & ~~ORS~~ 466.76583
Hist.: DEQ 29-1988, f. & cert. ef. 11-9-88; DEQ 15-1991, f. & cert. ef. 8-14-91; DEQ 13-1992, f. 6-9-92, cert. ef. 10-1-92; DEQ 23-1998, f. & cert. ef. 11-2-98

Attachment B

List of UST Advisory Committee Members

Name	Affiliation	Address
Ron Bergeson	Bergeson-Boese & Assoc.	65 Centennial Loop, Eugene
Jim Hickey	Environmental Insurance Agency	P.O. Box 23605, Portland
Steve Fletcher	Northwest Pump & Equipment	2800 NW 31st, Portland
Cliff Olson	Marc Nelson Oil Products	1555 Silverton Rd, NE, Salem
Nicoletta Endres	Oregon Gasoline Dealers Assoc.	P.O. Box 2285, Lake Oswego
Chris Moul	ARCO	P.O. Box 820001, Portland
Brian Doherty	Miller Nash	111 SW 5th, Portland
Phil Murray	Truax Harris Energy	P.O. Box 607, Wilsonville
Steve O'Toole	Oregon Petroleum Marketers Assoc.	7070 SW Fir Loop, Suite 150, Tigard
Bruce Kwasney	Ace Tank	5107 NE 158th, Portland
Kent Elliott	Elliott, Powell, Baden & Baker	1521 SW Salmon, Portland

Attachment C

Summary of Public Comments and Agency Response

Underground Storage Tank Compliance Rule Revisions

The public comment period opened on September 1, 2002, and closed at 5:00 PM on October 14, 2002. The Department held 14 public hearings from September 19 to October 9, 2002, in Astoria, La Grande, Portland (2), Pendleton, Medford, The Dalles, Ontario, Bend, Salem, Klamath Falls, Eugene, Coos Bay and Tillamook. A total of 88 people attended the hearings with two oral comments provided for the record. In addition, eight written comments were submitted during the comment period.

The persons who provided comments are referenced by number. A list of commentators and their reference numbers follows the summary of comments and Department responses.

In addition to the changes made to the proposed rules as a result of public comments, the Department has also made the following minor changes from the version of the rules submitted for public comment:

- A note inserted after OAR 340-150-0006 has been revised to more clearly state the joint responsibility for compliance with the regulations that are shared by owners and permittees;
- The specific edition of a national code in OAR 340-150-0320 appendix E-2(10) for the National Association of Corrosion Experts (NACE) Test Method (TM) 0497 was updated to the most recent available (2002 vs. 1997);
- To correct a previous oversight, the definition of "Petroleum UST" in OAR 340-122-0023 was revised and the definition of "UST system" was added to be consistent with Division 150; and
- All rules were further edited for punctuation, grammar and sentence structure and minor changes made as necessary.

The Department was also required to make changes to the format and method of adoption of the federal requirements for Financial Responsibility in Division 151. The Department is preparing to submit an application to the Environmental Protection Agency for State Program Approval. Due to the complexity of the insurance and other legal requirements for financial assurance mechanisms, it has been determined that the review process for Oregon's application would be less complex if these requirements were adopted by reference instead of by incorporation into Oregon Administrative Rules as was presented in the version submitted for public comments. Therefore, Division 151 has been revised to adopt the federal requirements by reference with the Oregon-specific additions and changes that were included in the public comment draft added in OAR 340-151-0015 (Attachment A.2 (b)).

Summary of Comments and Agency Responses	
Comment 1	Commentator #1 had several suggestions regarding the UST Service Provider and Supervisor rules pertaining to exemptions for licensed Professional Engineers, requirements for submittal of checklists for certain UST services, testing requirements for supervisors and modifying the supervisor testing requirements for installation of tanks with cathodic protection.

Response	While the Department agrees that changes to the technical requirements for UST service providers and supervisors may be necessary, the suggestions made are outside the scope of this rulemaking. Only very minor changes to Division 160 were made at this time to modify definitions to be consistent with Division 150, delete obsolete testing services and change licensing fees to match the amounts approved by the 2001 Legislature. These comments will be considered and the commentator invited to participate when the Department initiates a review of the UST Service Provider rules.
Comment 2	"After viewing the video and having my questions answered I am in support of the proposed changes".
Response	The Department appreciates the commentator's support and effort to provide formal comments.

Comment 3	"Allow 30 days from date of expiration of insurance before being required to provide new proof of insurance." (as pertains to Financial Responsibility)
Response	The financial responsibility regulations do not require tank owners to submit a copy of insurance documents when coverage has been renewed on time. However, when the Department requests proof of coverage from a specific tank owner, it is our practice to grant an extension to the time period for submitting a response to accommodate situations where the insurance company may be delayed in providing the information to the tank owner. [Note: Commentator #3 is referring to the fact that the Department has recently made requests to tank owners to submit records that demonstrate compliance with the existing financial responsibility regulations.]

Comment 4	Commentator #4 states that the proposed release detection requirement for submitting records to Statistical Inventory Reconciliation (SIR) vendors within seven days after the end of a 30-day period may be too short of a time period and requiring the vendor to send final results back to the owner is too long of a time period. Suggests that a total of 22 days for both activities to occur should be sufficient.
Response	The Department agrees with the comment and has revised the proposed rule to allow a total of 22 days for record reconciliation results of SIR to occur. The following change has been made to OAR 340-150-0435: *(5) An UST system must be monitored for releases on a monthly basis when the SIR method is used. To meet the monthly monitoring requirements, an owner and permittee must, within 22 days after each calendar month or 30-day period, submit the daily inventory records to and receive the SIR results back from the SIR vendor they have hired to perform the statistical analysis An owner and permittee must follow up with the SIR vendor if there are delays and make any changes necessary to their service agreement or contract to prevent late report submittals.*
Comment 5	"The Oregon Uniform Fire Code should be added to rule as there are at least

	three Articles in the Code that pertain to underground storage tanks."
Response	The Department agrees with the comment and has added the following note to OAR 340-150-0300 "Installation of USTs and Piping": *[Note 1: USTs and underground piping must be installed to meet all requirements of the Oregon Uniform Fire Code pertaining to USTs in accordance with OAR chapter 837, division 40 "Fire and Life Safety Regulations" (Department of Oregon State Police, Office of State Fire Marshal).]*

Comment 6	"The rule changes appear to be logical and promise to reduce overall cost, while at the same time improving compliance…I must admit the financial responsibility requirement is a quite cumbersome process. We ended up having our legal counsel review the requirements and eventually made the response back to DEQ."
Response	The Department appreciates the recognition of effort to make the regulations easier to understand and improve compliance. Division 151 for Financial Responsibility (FR) has been written to adopt the federal requirements by reference with Oregon-specific additions and changes. We recognize this is a bit cumbersome and will consider making changes in the future. [Note: Commentator #6 is referring to the fact that the Department has recently made requests to tank owners to submit records that demonstrate compliance with the existing financial responsibility regulations.]

Comments 7 & 8	Commentator #7 suggested specific changes to rule language that would exclude those pumping fuel at nonretail facilities from the training requirement for facility attendants. Commentator #8 believes that the requirement for attendant training would incur additional costs and record keeping that would be overly burdensome, especially when the tank owner has numerous employees that fuel their own vehicle.
Response	The Department agrees that the training and record keeping requirements for UST facility attendants could be overly burdensome in some instances, such as non-retail or "fleet" fueling operations. Training and record keeping for UST facility attendants was mentioned at almost all of the informational sessions held before each formal hearing. The intent of the rule is to ensure that any person who dispenses fuel knows how to shut the tank system down, notify proper authorities and be aware of nearby sensitive areas or conduits that can spread contamination quickly. To relieve the burdensome portion of this requirement, but still retain real environmental protection, the Department has revised this section of the rules. The requirement to have at least one trained facility attendant on duty when fuel is dispensed and the associated training and record keeping requirements have been deleted, along with the definition for an "UST facility attendant".

	A new requirement for emergency response information availability at any facility where fuel is dispensed has been added to OAR 340-150-0200. It is important to note that card lock facilities licensed by the State Fire Marshal must also comply with the following change, whereas the definition of "UST facility attendant" exempted facilities where the persons dispensing the fuel were not "employees". *(7) Emergency response information. In addition to the requirements of sections (1) through (6) of this rule, an owner and permittee must provide information about emergency response procedures, including, but not limited to, procedures for overfill protection during delivery of regulated substances, operation of emergency shut off system and alarm response, release reporting and any site specific emergency procedures. The information must include any emergency response requirements made necessary by site specific human health and safety issues or the presence of environmentally sensitive areas, such as nearby streams, wetlands or potential conduits for spreading contamination. The emergency response information must be provided by:* *(a) Written instructions that are provided to each person who dispenses a regulated substance at the UST facility;* *(b) Signage posted in prominent areas of the UST facility that is easily visible to each person dispensing a regulated substance; or* *(c) A combination of both subsections (a) and (b) of this section.*

Comment 9	Commentator #9 had several comments covering the following topics: 1. Training for UST operators - believes that this is a good idea and long overdue. Does not agree with including a hardship provision and does not believe that sufficient knowledge will be gained by reading a book. 2. Corrosion protection and lined tanks - concerned that there will be confusion about whether or not corrosion protection is required for lined tanks and if there has been a change from the previous regulations. 3. Inventory control as a leak detection method - agrees that more accurate form of monitoring is appropriate, but concerned that waiting until 2008 is too long. 4. Requiring tank owners to pass tests before performing work on their own tanks - "The issue of owners being certified to install their own tanks is a must." Has had experience with facilities where the owner installed the tanks and feels these are where some of the biggest contamination is found. 5. Expedited enforcement process - likes this process and that the fine amounts are set in writing. Does not believe it is appropriate to deny the right to appeal for minor violations. Would like to have a process where violations are expunged from the record after six months if violation is corrected and systems are in place to prevent recurrence.
Response	1. The hardship provision is in statute and therefore a required component of the proposed rules. The Department believes the hardship provision is

	important because some tank owners in rural areas of the state may have a problem attending a training session if none is available in their area. 2. OAR 340-150-0352 and 340-150-0360 define requirements for internally lined USTs *without* corrosion protection. Lining a tank was considered to be the same as adding corrosion protection up until December 22, 1998. Since then, tanks cannot be installed that do not have cathodic protection (unless the tank material is non-corrodible). The Department believes that the regulations are clear in this regard. However, this issue will be addressed in the training manual for UST operators that the Department is developing. 3. The use of inventory control as the primary leak detection method will be gradually declining until December 22, 2008, as a result of existing federal regulations that allow use of the method until ten years after a new tank is installed. This has not changed. However, for any new tank installed after 1998, the tank owner must change to a more accurate leak detection monitoring method by the 2008 date. Maintaining this same date was deemed to be the easiest implementation approach, as it will avoid multiple compliance dates. 4. The Department shares your concern that improperly installed tanks will leak and believes the testing approach helps address this issue. 5. The expedited enforcement process does not deny a tank owner's right to appeal any violation. It does, however, exclude the person from participating in the expedited process if they wish to appeal. This is a necessary component to the process to retain the "expedited" portion of the pilot program. The suggestion to have violations expunged from the record is beyond the scope of this rulemaking. This comment will be forwarded to the Department's Office of Compliance and Enforcement for consideration in other proposed revisions to Division 12.

Comment 10	Commentator #10 is concerned that the training and record keeping requirements for UST system operators are too overreaching for tank owners who maintain private fueling operations, including: ▪ Emergency response procedures for fuel spills are already adequately covered by other state and federal regulations for drivers transporting hazardous materials, Spill Prevention, Control and Countermeasures plans and storm water discharge permits; ▪ Maintaining training records will impose a financial burden not shared by facilities in other states; and ▪ Card lock and facilities with above-ground tanks are not included, but above-ground tanks pose a greater risk of spills.
Response	Refer to the response to comments no. 7 & 8 on page 3 of this document for the revisions made to delete the requirements for training UST facility attendants. It should be noted that the state and federal requirements referenced by the commentator do not apply to all UST facilities that dispense fuel in Oregon.

	Regulations for above-ground tanks are under the jurisdiction of the Oregon State Fire Marshal's office.

List of Commentators and Reference Numbers				
	Name		**Address**	**Date of comments**
1	John Keppler	Poole Oil	P.O. Box 309 Ontario, OR 97914	9/23/02
2	Rodger Clawson	Tank Owner	P.O. Box 607 Wilsonville, OR 97070	9/25/02
3	Ralph Poole	Poole Oil	P.O. Box 309 Ontario, OR 97914	10/04/02
4	Phil Murray	Truax Harris	P.O. Box 607 Wilsonville, OR 97070	10/08/02
5	Stacy Warner	Marc Nelson Oil Products	P.O. Box 7135 Salem, OR 97303	10/09/02
6	Karl Delzotti	Bay Area Hospital	Salem	10/11/02
7	Cliff Olson	Marc Nelson Oil Products	P.O. Box 7135 Salem, OR 97303	10/09/02
8	Rob Lohof	Oregon Dept. of Administrative Services	Salem	10/11/02
9	John Phimister	WSCO Petroleum	2929 NW 29th Avenue Portland	10/14/02
10	Robert Carson & David Einolf	Century West Engineering	6650 SW Redwood Lane Suite 300 Portland, OR 97224	10/14/02

State of Oregon
Department of Environmental Quality **Memorandum**

Date: January 9, 2002

To: Environmental Quality Commission

From: Mitch Scheel, Land Quality Division – Environmental Cleanup & Tanks

Subject: Presiding Officer's Report for Rulemaking Hearing – Attachment D
Title of Proposal: Underground Storage Tank Compliance Rule Revisions

Overview of Public Hearing Locations, Times and Presiding Officers

Hearing Date	Time	Location	Hearings Officer
9/19/02	7:00 PM	1653 Jerome Ave., Astoria	Mitch Scheel (DEQ employee)
9/20/02	7:00 PM	404 12th Street, La Grande	Duane Smith (DEQ employee)
9/23/02	7:00 PM	811 SW Sixth Ave., Rm. 3A, Portland	Mitch Scheel (DEQ employee)
9/30/02	7:00 PM	700 SE Emigrant, Suite 330, Pendleton	Scott Fairley (DEQ employee)
10/01/02	2:00 PM	411 W Eighth, Rm. 340, Medford	Claudia Johansen (DEQ employee)
10/01/02	7:00 PM	400 E Scenic Dr., Bldg. 1.162, The Dalles	Bud Roman (DEQ employee)
10/02/02	7:00 PM	650 College Blvd., Barbur Hall #14, Ontario	Duane Smith (DEQ employee)
10/03/02	7:00 PM	2146 NE Fourth, #104, Bend	Joe Klemz (DEQ employee)
10/04/02	2:00 PM	750 Front Street, NE, Suite 120, Salem	Jim Parr (DEQ employee)
10/07/02	2:00 PM	811 SW Sixth Ave., Rm. 3A, Portland	Mitch Scheel (DEQ employee)
10/07/02	7:00 PM	305 Main Street, Klamath Falls	Joe Klemz (DEQ employee)
10/08/02	2:00 PM	1102 Lincoln, Suite 210, Eugene	Dave Belyea (DEQ employee)
10/08/02	7:00 PM	525 Anderson, Coos Bay	Eric Clough (DEQ employee)
10/09/02	7:00 PM	1115 Pacific Ave., Tillamook	Mitch Scheel (DEQ employee)

At all hearings with people in attendance, an information session including a video presentation overview of the proposed rules was conducted before each formal hearing period, and audience members were asked to sign registration forms if they wished to present oral comments. Audience members were also advised that the hearing would be recorded.

The video was paused at predetermined times so questions could be answered by Laurie McCulloch (UST Program Senior Policy Coordinator). Ms. McCulloch was linked to the hearings by speaker phone (in person at the two Portland hearings). A total of 88 people attended the hearings.

The following is a summary of written and oral comments received by the Department at the hearing. The Department will include these comments in the Summary of Public Comments and Agency Response (Attachment C) for this rulemaking.

Astoria Hearing 9/19/02
The rulemaking hearing was set up at 7:00 PM and ended at 7:30 PM. No one attended.

La Grande Hearing 9/20/02
The rulemaking hearing was set up at 7:00 PM and ended at 7:30 PM. No one attended.

Portland Hearing 9/23/02
The information session at the rulemaking hearing was convened at 7:00 PM and ended at 8:20 PM. Five people were in attendance. No one provided written or oral comment at the hearing.

Pendleton Hearing 9/30/02
The information session at the rulemaking hearing was convened at 7:00 PM and ended at 8:30 PM. Five people were in attendance. No one provided written or oral comment at the hearing.

Medford Hearing 10/01/02
The information session at the rulemaking hearing was convened at 2:00 PM and ended at 3:00 PM. Sixteen people were in attendance. No one provided written or oral comment at the hearing.

The Dalles Hearing 10/01/02
The information session at the rulemaking hearing was convened at 7:00 PM and ended at 8:00 PM. Eight people were in attendance. No one provided written or oral comment at the hearing.

Ontario Hearing 10/02/02
The information session of the rulemaking hearing was convened at 7:00 PM and ended at 8:30 PM. Two people were in attendance. One person provided written testimony.

Mr. Ralph Poole, an UST Permittee, is in favor of allowing 30 days from the date of expiration of a certificate of insurance before being required to provide new proof of financial responsibility.

Bend Hearing 10/03/02
The information session of the rulemaking hearing was convened at 7:00 PM and ended at 9:00 PM. Six people were in attendance. No one provided written or oral comment at the hearing.

Salem Hearing 10/04/02
The information session of the rulemaking hearing was convened at 2:00 PM and ended at 2:45 PM. Fifteen people were in attendance. Two people provided oral testimony.

Mr. Phil Murray spoke as an UST Permittee in favor of altering a release detection requirement for Statistical Inventory Reconciliation (SIR). The current proposed requirement is that owners submit records to their SIR vendor within seven days after the end of a 30 day period and the vendor then has 15 days to send the final release detection results back to the owner. Mr. Murray feels that the time for the owner is too short and the time for the vendor is too long and suggested using the total of 22 days for both activities to occur.

Mr. Stacy Warner spoke as a representative of the Oregon State Fire Marshal's office and recommended that the Oregon Uniform Fire Code be added to Attachment A (list of codes and standards referenced in rule) in the proposed rules, as there are at least three Articles in the Code that pertain to USTs.

Portland Hearing 10/07/02
The information session of the rulemaking hearing was convened at 2:00 PM and ended at 3:40 PM. Fourteen people were in attendance. No one provided written or oral testimony.

Klamath Falls Hearing 10/07/02
The rulemaking hearing was set up at 7:00 PM and ended at 8:00 PM. No one attended.

Eugene Hearing 10/08/02
The information session of the rulemaking hearing convened at 2:00 PM and ended at 3:45 PM. Thirteen people were in attendance. No one provided written or oral testimony.

Coos Bay Hearing 10/08/02
The information session of the rulemaking hearing convened at 7:00 PM and ended at 9:00 PM. Four people were in attendance. One person submitted written testimony.

Mr. Karl Delzotti, an UST Permittee with Bay Area Hospital in Coos Bay, is in favor of the proposed rules, stating that they promise to "reduce overall cost, while at the same time improving compliance" however, "the financial responsibility requirement is quite a cumbersome process".

Tillamook Hearing 10/09/02

The rulemaking hearing was set up at 7:00 PM and ended at 7:30 PM. No one attended.

Attachment E

Relationship to Federal Requirements

Underground Storage Tank Rule Revisions

Answers to the following questions identify how the proposed rulemaking relates to federal requirements and potential justification for differing from federal requirements. The questions are required by OAR 340-011-0029.

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

Yes. The federal regulations pertaining to underground storage tanks (USTs or tanks) were promulgated by the Environmental Protection Agency (EPA) in 1988 (40 CFR Part 280 Subparts A-G). The Department adopted these regulations with several minor modifications (OAR 340-150-0003) in 1990. Oregon formally adopted requirements for financial responsibility (subpart H) in 1998.

The proposed amendments are more stringent or broader in scope than existing federal requirements in the following ways:

Broader:

- Adds requirement for operators of UST systems to obtain training in the operation and maintenance of USTs. There is no federal requirement for training.
- Provides greater efficiency for the Department and more certainty for tank owners in enforcement of violations. Federal UST regulations do not include enforcement elements.
- Ensures that tank owners who install, decommission or test their own tanks have the technical knowledge to do so safely and correctly by adding the requirement that owners take the same proficiency examination as UST supervisors. There is no federal requirement for proficiency testing of persons who perform work on USTs.

More stringent:

- Improves leak detection and prevention requirements through additional reporting requirements for leak test failures and changes in equipment. Federal requirements have only basic reporting requirements for reporting confirmed releases, suspected releases and installation and decommissioning of USTs.
- Ensures tank owners maintain coverage to pay for cleanup of any leaks that occur by adding a requirement for tank owners and insurance companies to notify the Department when insurance coverage is canceled or not renewed. Federal requirements only require notification when an owner's coverage is canceled and they have failed to obtain another financial responsibility mechanism.
- Requires used USTs that have been removed from the ground be certified by an UST manufacturer in writing before the UST can be reused at the same or another location. Federal requirements only require that the UST meet requirements for new tanks without addressing the reuse of USTs.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

UST requirements are predominantly performance based.

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

Yes.

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

Yes. Existing federal regulations can be difficult to understand. The proposed rules clearly explain what actions a tank owner must take to comply with the regulations.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

No.

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Not applicable.

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. The proposed revisions clarify the UST requirements so all users can better understand the regulations. The notification requirement when insurance is canceled or not renewed allows the Department to verify that tank owners maintain a financial responsibility mechanism at all times. This ensures that some tank owners do not have a financial advantage over others by not paying premiums.

8. Would others face increased costs if a more stringent rule is not enacted?

Possibly. Most of the proposed modifications to federal rules improve leak detection efforts and ensure tank owners maintain coverage to pay for the cleanup of any leaks that do occur. Without these revisions, the public and nearby business could be affected by the pollution that results from a leak or spill or the state may be required to bear the expense of cleanup.

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

Yes. The reasons why proposed procedural, reporting or monitoring requirements are broader or more stringent than federal (refer to question no. 1.) are detailed below:

The Department must be notified when an UST system is temporarily closed, corrosion tank tightness tests fail, release to a secondary containment system occurs, or financial responsibility insurance is canceled or not renewed.

- These changes allow the Department to determine trends for different types of UST systems or leak prevention measures and ensure that all permit requirements are met. Without insurance, the cost of cleanup could bankrupt a company and require the state to pay for it.

Tank owners must pass a national examination to install or decommission their own tanks.

- Tank owners who do their own work must be able to do so safely and properly to prevent leaks. Repaired and used USTs must be certified by a tank manufacturer as meeting all performance standards before the UST can be operated.
- This prevents leaks from defective USTs and tank owners avoid additional costs of replacement if a defect is found after installation is complete.

Mandatory training of operators.

- Almost 70% of the facilities inspected by the Department do not meet release detection requirements. Operator training is necessary to ensure that UST systems are maintained and operated correctly to prevent or detect leaks.

A pilot program for expedited enforcement of violations.

- The new process expedites enforcement through the use of "tickets" instead of traditional civil penalties. The result is reduced time spent on enforcement activities by the Department and immediately informing tank owners of problems and actions necessary to correct violations while the inspector is present to explain details and provide technical assistance. Penalty amounts in the pilot program are much lower than traditional civil penalties. The process is similar to the enforcement process used by the EPA.

10. Is demonstrated technology available to comply with the proposed requirement?
Yes.

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

Yes. The primary purpose of the UST compliance program is to prevent and quickly detect leaks from USTs that could cause pollution to soil and groundwater. The proposed rule revisions improve leak detection methods or prevent leaks by:

- Requiring new tank systems installed after March 1, 2003 to be accessible for inspection of overfill equipment. This proposal allows verification that equipment is in place and working properly.
- Requiring corrosion protection on all metallic USTs with no exclusions. Corrosion protection prevents holes from developing in USTs that could leak regulated substances.
- Specifying conditions where an interstitial monitoring sensor may replace the requirement for annual piping leak tests on pressurized piping. This provision may reduce costs for some tank owners that use the interstitial monitoring method for leak detection.
- Limiting the use of less accurate leak detection method by December 22, 2008. This provision requires tank owners using inventory control and manual tank gauging (for USTs over 1,000 gallons in size) to switch to a more accurate leak detection method after this date.

Attachment F

Statement of Need and Fiscal and Economic Impact

Title of Proposed Rulemaking:

Underground Storage Tank Compliance Rule Revisions

Need for the Rules

Amendments by the 2001 legislature (House Bill 2264) to laws governing underground storage tanks (USTs) require the Department to adopt rules to implement:

- A mandatory training program for all UST system operators; and
- A pilot program to expedite enforcement of UST compliance violations.

This rulemaking proposal also improves existing UST regulations in Oregon that were previously adopted by reference to federal rules. The proposed amendments reformat and clarify the existing rules, making it easier for tank owners to understand and comply with the requirements. Oregon-specific additions to federal regulations are proposed to improve leak detection and prevention requirements for USTs, which is an important pollution prevention aspect of the UST program.

Documents Relied Upon for Rulemaking

- Oregon Administrative Rules, Chapter 340, Division 150 (UST regulations) & Division 12 (Enforcement Procedure and Civil Penalties)
- Federal regulations for USTs, 40 CFR Part 280, Subparts A through H
- Oregon UST statutes, ORS 466.706 through 466.835, 466.994 and 466.995

Copies of these documents are available for review at the Department of Environmental Quality Headquarters office, UST Program (8th Floor) 811 SW 6th Avenue, Portland, Oregon or on our web page at www.deq.state.or.us/wmc/tank/ust-lust.htm.

Fiscal and Economic Impact

Overview

There is no economic impact on tank owners expected as a result of the proposed revisions to existing state and federal UST regulations; some new requirements that are expected to have a net neutral cost impact are discussed on page two of this statement. However, the two new requirements for UST owners and permittees are operator training and the expedited enforcement process. These are anticipated to have the following economic impact on all tank owners:

- Economic impact for added costs ranging from $50 to $250 to obtain one-time training from private vendors; and
- Economic benefit through the potential for reduced cost of enforcement penalties with expedited process vs. traditional enforcement penalties and process.

General public

There is no direct economic impact on the general public as a result of the proposed rule revisions. The one-time cost to have UST system operators trained is not anticipated to result in increased costs of motor fuel or services provided by non-retail tank owners.

Small Business

The mandatory operator training requirements and the expedited enforcement process will have some financial impact on all tank owners regardless of the size of the business. Very small business owners (e.g., individuals who own only one UST facility) will likely be affected the most.

Since penalties associated with violations under the expedited enforcement process ($50 to $75 for each violation) are smaller than a tank owner would otherwise experience with traditional enforcement (generally greater than $1,000), there is an anticipated economic benefit to small business owners who would also have received a penalty under the current enforcement process. Some businesses may receive minimal penalties under this new expedited process that otherwise would not currently receive penalties due to current enforcement guidance and program priorities.

Although the anticipated cost of training is relatively low, it is possible that some small business owners, especially in rural areas, may need to close their business for one to two days to attend a training session. To address this concern, a hardship provision is included in the proposed rules, which allows owners of a single retail facility to independently review training materials developed by the Department in lieu of attending an in-person training session.

Large Business

Large business owners would experience the same potential financial effect as small business owners. Although the cost of training is multiplied by the number of UST system operators that a business owner employs, some large business owners may choose to conduct their own training sessions, which would likely result in savings in both dollars and the time spent by employees to attend the training.

Local Government

Local governments owning regulated USTs will be affected by the operator training and enforcement requirements the same as either large or small business owners.

State Agencies

DEQ

The proposed amendments will increase costs for the Department to implement the operator training program. The Department will use existing staff resources to develop a training manual to support training presented by vendors (approx. 0.3 FTE for two months). In early 2004, the Department will use existing staff (approx. 0.5 FTE for three months) to verify and enforce initial compliance with the operator training requirements and to audit trainers. After this initial period, the Department expects only minimal resources will be required to periodically audit an estimated five to six vendors and industry organizations that will provide the training to UST System Operators.

The new enforcement process may reduce the time required by inspectors for UST enforcement activities. Because much of the time spent on enforcement activities is in ensuring that tank owners correct violations, actual resource savings may not be achieved unless tank owners make an effort to ensure they are in compliance before the Department inspects their facility. The Department will provide guidance documents to aid tank owners in this effort.

Other agencies

State agencies owning regulated USTs will be affected the same as either large or small business owners.

Assumptions

The cost to tank owners to obtain the required operator training is estimated to range from $50 to $250 per person depending upon the type of training option selected:

$ 50 - $75	Training provided by industry groups using training manual developed by the Department.
$ 70 - $80	Standardized national proficiency test (does not include training).
$200 - $225	On-line, web-based training and testing program provided by a private vendor.
$200 - $250	Training course presented in several different states by a private vendor.

The cost for large business owners to conduct their own training program has not been estimated. Because most companies that own numerous UST facilities already have a training program in place, minor changes to an existing program may be all that is required.

Neutral Costs and Voluntary Changes

There are some proposed rule changes that could have a fiscal impact, but these have been evaluated and determined to either be a voluntary expense or have a net neutral cost.

- *New tank systems installed after March 1, 2003 must have access to inspect overfill equipment.* Most new facilities are built to allow access, as it is important to check overfill equipment. Existing rules require tank owners to provide proof that the equipment operates properly. Making this requirement clear in rule now could potentially save an owner the cost of removing concrete later.
- *Requiring all metal tanks to have corrosion protection without an exception process in rule.* Very few facilities in Oregon are located in areas where the combination of geologic conditions and climate would not cause corrosion to metal tanks. The cost of the evaluation by an expert could be as much as the cost of adding corrosion protection to a single tank. However, if a tank owner could demonstrate that corrosion protection was not technically necessary (and proving it was cost effective for them), existing statutes allow a person to request a variance from the rules. By deleting this option from the rules, it avoids the existing problem of some tank owners spending funds to try to demonstrate that corrosion protection is not needed, thinking that it will save them money.
- *Specifying conditions where an interstitial monitoring sensor may replace the requirement for annual piping leak tests on pressurized piping.* Although allowing this exception for additional testing may reduce operating costs, it is unknown how many tank owners may choose to do this or if their equipment meets the conditions for exceptions.
- *Limiting the use of less accurate leak detection methods after December 22, 2008.* Existing rules limit use of inventory control and manual tank gauging methods to 10 years after installation or the date corrosion protection was added. The latest date for tanks to be in compliance was December 22, 1998. With new technologies available, it would very unusual for a new tank to be installed now using one of these methods as the sole means of leak detection. Setting a final date gives certainty to tank owners.
- *Tank owners must pass a national proficiency examination to install or decommission their own tanks.* The decision to perform the work themselves is voluntary. The cost for an examination is $70-$80.

Housing Costs

The Department has determined that this proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.

Administrative Rule Advisory Committee

Between October 2001 and July 2002, the UST Advisory Committee assisted the Department in the development of the proposed rule revisions. Committee members and Department staff participated in three subcommittees to focus on technical, enforcement and training issues. The work produced by each subcommittee was presented to the full UST Advisory Committee as a rough draft in February 2002. The Committee provided input on several policy issues and recommended changes to rule language after discussion of each rule section.

<< as signed >>	Laurie J. McCulloch, Rule Writer	8/20/02
Prepared by	Printed name	Date

<< as signed >>	Jim Roys, Budget Manager	8/20/02
Approved by DEQ Budget Office	Printed name	Date

Attachment G

Land Use Evaluation Statement

1. **Explain the purpose of the proposed rules.**

   This proposal would amend rules regarding requirements for underground storage tanks (UST) found in OAR Chapter 340, Divisions 150, 151 and 12. The proposed rule amendments would:
   - Modify leak detection and prevention requirements for UST systems;
   - Add mandatory training for UST system operators (must complete training by January 1, 2004);
   - Provide a new, expedited enforcement process and revise the classification of UST violations used in the process; and
   - Reformat and clarify language of federal UST regulations incorporated into proposed Oregon Administrative Rules.

   Note that these proposed rule amendments pertain to regulated USTs and do not include heating oil tanks.

2. **Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program? ✓ No**

   In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

   The permit requirements for installation, operation and decommissioning of underground storage tanks have not previously been identified as a program affecting land use. The proposed amendments to the underground storage tank rules are not actions that would cause the Department to change its determination regarding land use.

3. **If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.**

   Not applicable.

Approved:

<< as signed >>	<< as signed >>	8/15/02
Dick Pedersen	Roberta Young	Date
Administrator	Intergovernmental Coordinator	
Land Quality Division		

State of Oregon
Department of Environmental Quality Memorandum

Date: January 9, 2003

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item I, Air Quality Rule Adoption: Annual Update and Incorporation of National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS)
January 31, 2003 EQC Meeting

Department Recommendation

The Department recommends that the Environmental Quality Commission (Commission) adopt proposed rules to incorporate new federal NSPS and NESHAP standards and update existing rules as presented in Attachment A.

Need for Rulemaking

The U.S. Environmental Protection Agency (EPA) periodically adopts requirements for new sources and hazardous air pollutant sources, and the commission adopts these requirements by reference so that the Department can include them in the Title V permits. Even if the Commission does not adopt these rules, the sources must still comply with the federal requirements. Adopting the rules at this time ensures that Oregon's rules are consistent with federal rules and allows the Department to be the primary implementing agency. In addition, this rulemaking is needed to incorporate an extended deadline for permit applications in cases where EPA is late issuing a national hazardous air pollutant standard.

Effect of Rule

This proposal would adopt federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) rules. EPA adopts NSPS rules to ensure that new sources use modern pollution control equipment and techniques. When issuing an NSPS for a category (e.g. municipal waster combustors), the EPA also establishes emission guidelines for existing sources in the category. The EPA adopts NESHAP rules to reduce emissions of hazardous air pollutants by requiring new and existing sources to install Maximum Achievable Control Technology (MACT). The Clean Air Act requires states to issue MACT standards if EPA misses the deadline for adoption of a NESHAP rule.

The following is a list of changes proposed:

<u>New Source Performance Standards (NSPS)</u>.

- Adopt by reference the federal NSPS for two new source categories: Small Municipal Waste Combustor Units and Commercial and Industrial Solid

Waste Incinerators. (Attachment A, OAR 340-238-0060, p. 58-60)

- Adopt an emission standard for existing small municipal waste combustors (MWC) consistent with federal guidelines. (Attachment A, OAR 340-230-0365 thru 0395, p. 32-55)
- Update the emission standard for existing large MWCs consistent with federal guidelines. (Attachment A, OAR 340-230-0300 thru 0360, p. 8-32)
- Update existing regulations to incorporate changes through July 1, 2002. (Attachment A, OAR 340-230, 340-238, p. 1-60, and Attachment G)

National Emission Standards for Hazardous Air Pollutants (NESHAP).

- Adopt by reference the federal NESHAPs for seven new source categories (Attachment A, OAR 340-244-0220, p. 62-64).
- Update existing regulations to incorporate changes through July 1, 2002 (Attachment A, OAR 340-244-0220, p. 62-64, and Attachment F).
- Adopt new application deadline for State Maximum Achievable Control Technology (MACT) for existing sources, commonly referred to as the 'MACT Hammer' (Attachment A, OAR 340-244-0210, p. 61-62).
- Clarify the emission control equipment testing requirement under MACT for new and reconstructed major sources (Attachment A, OAR 340-244-0200, p. 60-61).

Attachments F (NESHAP) and G (NSPS) list Federal Register citations that EPA has promulgated for NSPSs and NESHAPs.

Commission Authority

The Commission has authority to take this action under ORS 468.020, 468A.025, and 468A.310.

Public Comment

No advisory committee was convened for this rulemaking because the rulemaking incorporates existing federal regulations. The Department did contact the Oregon Refuse and Recycling Association, Associated Oregon Industries, and affected sources to inform them of this rulemaking action.

A public comment period extended from July 24, 2002 to September 6, 2002 and included a public hearing in Portland. Attachment B provides results of public input. No persons testified at the public hearing; no written comments were received. The lack of comment reflects the fact that these rules incorporate existing federal requirements.

Key Issues

Key issues include the following:

New Source Performance Standards (NSPS).

- The NSPS rules and new emission standard for small municipal waste combustors are comparable to existing state incinerator rules. The Department is adopting these regulations in lieu of the existing rules to maintain consistency with federal rules.

National Emission Standards for Hazardous Air Pollutants (NESHAP).

- Background. The Clean Air Act (CAA) MACT Hammer provision shifts the burden of developing MACT standards from EPA to permitting authorities when EPA misses any NESHAP deadline by more than 18 months. The MACT Hammer was triggered on May 15, 2002, when EPA failed to develop NESHAPs for several categories of sources. The MACT Hammer requires affected sources to submit a permit application proposing source-specific MACT.
- Current Rules. Current Commission rules implementing the MACT Hammer require affected sources to submit a complete MACT Hammer application by November 1, 2003 (within 18 months of notification by the Department). Current federal rules require these sources to submit the application by May 15, 2004. The Department proposes to change its application deadline so that it is not earlier than the federal deadline. It is important that the Department adopt this change to level the playing field for sources in Oregon and to eliminate unnecessary work.
- Recent Developments. The EPA recently entered into a settlement agreement with the Sierra Club to replace the current MACT Hammer application deadline with multiple application deadlines. This is the second settlement agreement that the EPA has reached with the Sierra Club in regard to the MACT Hammer, and it includes different application deadlines for each NESHAP. Most of the deadlines that would affect Oregon sources are before May 15, 2004. There is no guarantee that these new application deadlines will end up being promulgated. In addition, affected sources will be subject to the earlier Federal deadlines when promulgated by the EPA. Therefore, it is still appropriate for Oregon to adopt the current Federal deadline of May 15, 2004. The Department will notify affected sources of the new deadlines soon after they are promulgated by the EPA.

Next Steps

The following summarizes steps contained in the Rule Implementation Plan:

Delegation.
The Department will submit an NSPS and NESHAP delegation request to EPA in February 2003. Within 30 days of the EPA promulgating the new MACT Hammer application deadlines, the Department will notify sources affected by the MACT Hammer of the requirement to submit a part 2 MACT Hammer application.

Permitting.
As Title V and ACDP permits come up for renewal, the Department will incorporate new NSPS and NESHAP standards into the permits.

Attachments

A. Proposed Rule Revisions
B. Presiding Officer's Report on Public Hearing, Public Comment Response Summary
C. Relationship to Federal Requirements
D. Fiscal and Economic Impact Statement
E. Land Use Evaluation Statement
F. NESHAPs Proposed for Adoption (List of NESHAPs rules)
G. NSPSs Proposed for Adoption (List of NSPS rules)
H. Air Quality Statutory Overview Chart

Available Upon Request

1. Legal Notice of Hearing
2. Rule Implementation Plan
3. Cover Memorandum from Public Notice

Approved:

Section: E. Patricia Vernon

Division: Andrew Ginsburg

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Attachment A
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
For
NSPS and NESHAP Rule Adoption
Proposed Rule Changes

DIVISION 230
INCINERATOR REGULATIONS

340-230-0010
Purpose
The purpose of this division is to establish state of the art emission standards, design requirements, and performance standards for all solid and infectious waste incinerators, hospital/medical/infectious waste incinerators, crematory ~~and~~incinerators, and municipal waste combustors in order to minimize air contaminant emissions and provide adequate protection of public health.
Stat. Auth.: ORS 183, ORS 468 & ORS 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0850

340-230-0020
Applicability
(1) OAR 340-230-0030 through 340-230-0150 apply to all solid and infectious waste incinerators other than:
  (a) municipal waste combustors, including those municipal waste combustors that burn some medical waste, that are subject to either OAR 340-238-0060, or 340-230-0300 through 340-230-0395~~60~~; and
  (b) hospital/medical/infectious waste incinerators that are subject to OAR 340-230-0400 through 340-230-0410.
(2) OAR 340-230-0200 through 340-230-0230 apply to all new and existing crematory incinerators;
(3) OAR 340-230-0300 through ~~340-230-0360~~340-230-0395 apply to municipal waste combustors as specified in OAR 340-230-0300.
(4) OAR 340-230-0400 through 340-230-0410 apply to hospital/medical/infectious waste incinerators as specified in OAR 340-230-0400.
Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0852

340-230-0030
Definitions
The definitions in OAR 340-200-0020, 340-238-0040 and this rule apply to this division. If the same term is defined in this rule and OAR 340-200-0020 or 340-238-0040, the definition in this

rule applies to this division. Applicable definitions ~~shall~~ have the same meaning as those provided ~~given~~ in 40 CFR ~~Section~~ 60.51c including, but not limited to:

(1) "Acid Gases" means any exhaust gas ~~which~~ that includes hydrogen chloride and sulfur dioxide.

(2) "Air curtain incinerator" means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of that type can be constructed above or below ground and with or without refractory walls and floor.

~~(2) "Best~~(3) "Best Available Control Technology (BACT)" means an emission limitation as defined ~~by~~ in OAR 340-200-0020.

~~(3)~~(4) "CFR" means Code of Federal Regulations revised as of July 1, 2002

(5) "Chemotherapeutic waste" means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.~~;~~

~~(4)~~(6) "Co-fired combustor" means a unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes (e.g., coal, municipal solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis. For purposes of this definition, pathological waste, chemotherapeutic waste, and low-level radioactive waste are considered "other" wastes when calculating the percentage of hospital waste and medical/infectious waste combusted.~~;~~

(7) "Commercial and industrial solid waste incineration unit (CISWI) means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:

(a) The combustion unit flue gas system, which ends immediately after the last combustion chamber.

(b) The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.

(8) "Commercial and industrial waste" means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.

~~(5)~~(9) "Continuous Emission Monitoring (CEM)" means a monitoring system for continuously measuring the emissions of a pollutant from an affected incinerator. Continuous monitoring equipment and operation ~~shall~~must be certified in accordance with EPA performance specifications and quality assurance procedures outlined in 40 CFR ~~Part~~ 60, Appendices B and F, and the Department's CEM Manual.

~~(6)~~(10) "Crematory Incinerator" means an incinerator used solely for the cremation of human and animal bodies.

~~(7)~~(11) "Department" means the Department of Environmental Quality.

~~(8)~~(12) "Dry Standard Cubic Foot" means the amount of gas that would occupy a volume of one cubic foot, if the gas were free of uncombined water at standard conditions. When applied to combustion flue gases from waste or refuse burning, "Standard Cubic Foot (SCF)" implies

adjustment of gas volume to that which would result at a concentration of seven percent oxygen or 50 percent excess air.

~~(9)~~(13) "Existing" means constructed or modified ~~prior to~~before March 13, 1990.

~~(10)~~(14) "Emission" means a release into the atmosphere of air contaminants.

(15) "Fluidized bed combustion unit" means a unit where municipal waste is combusted in a fluidized bed of material. The fluidized bed material may remain in the primary combustion zone or may be carried out of the primary combustion zone and returned through a recirculation loop.

~~(11)~~(16) "Fugitive Emissions" means the same as defined in OAR 340-200-0020(50).

~~(12)~~(17) "Hospital" means any facility ~~which~~ that has an organized medical staff, maintains at least six inpatient beds, and where the primary function of the institution is to provide diagnostic and therapeutic patient services and continuous nursing care primarily to human inpatients who are not related and who stay on average in excess of 24 hours per admission. This definition does not include facilities maintained for the sole purpose of providing nursing or convalescent care to human patients who generally are not acutely ill but who require continuous medical supervision.

~~(13)~~(18) "Hospital/medical/infectious waste incinerator" or HMIWI means any device that combusts any amount of hospital waste and/or medical/infectious waste.

~~(14)~~(19) "Hospital waste" means discards generated at a hospital, except unused items returned to the manufacturer. This definition does not include human corpses, remains and anatomical parts intended for interment or cremation.

~~(15)~~(20) "Incinerator" means any structure or furnace in which combustion takes place, the primary purpose of which is the reduction in volume and weight of unwanted material.

~~(16)~~(21) "Infectious agent" means any organism such as a virus or bacteria that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

~~(17)~~(22) "Infectious Waste" means waste as defined in ORS Chapter 763, Oregon Laws 1989, ~~which~~ that contains or may contain any disease producing microorganism or material, and includes, but is not limited to the following:

(a) "Biological waste", which includes blood and blood products, and body fluids that cannot be directly discarded into a municipal sewer system, and waste materials saturated with blood or body fluids, but does not include soiled diapers;

(b) "Cultures and stocks", which includes etiologic agents and associated biologicals; including specimen cultures and dishes, devices used to transfer, inoculate and mix cultures, wastes from production of biologicals, and serums and discarded live and attenuated vaccines. "Cultures" does not include throat and urine cultures;

(c) "Pathological waste", which includes biopsy materials and all human tissues, anatomical parts that emanate from surgery, obstetrical procedures, autopsy and laboratory procedures and animal carcasses exposed to pathogens in research and the bedding and other waste from such animals. "Pathological wastes" does not include teeth or formaldehyde or other preservative agents;

(d) "Sharps", which includes needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling and syringes that have been removed from their original sterile containers.

~~(18)~~(23) "Infectious Waste Facility" or "Infectious Waste Incinerator" means an incinerator ~~which~~ that is operated or utilized for the disposal or treatment of infectious waste, including combustion for the recovery of heat, and which utilizes high temperature thermal destruction technologies.

~~(19)~~(24) "Large HMIWI", except as provided in Subsection (d)(A) and (B) means:

(a) A HMIWI whose maximum design waste burning capacity is more than 500 pounds per hour; or

(b) A continuous or intermittent HMIWI whose maximum charge rate is more than 500 pounds per hour; or

(c) A batch HMIWI whose maximum charge rate is more than 4,000 pounds per day;

(d) The following are not large HMIWI:

(A) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 500 pounds per hour; or

(B) A batch HMIWI whose maximum charge rate is less than or equal to 4,000 pounds per day.

~~(20)~~(25) "Low-level radioactive waste" means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable federal or state standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

(26) "Mass burn refractory municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, that includes municipal waste combustion units with a cylindrical rotary refractory wall furnace.

(27) "Mass burn rotary waterwall municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a cylindrical rotary waterwall furnace.

(28) "Mass burn waterwall municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a waterwall furnace.

~~(21)~~(29) "Medical/infectious waste" means any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production of testing of biologicals that is listed in paragraphs (a) through (g) of this definition. The definition of medical/infectious waste does not include hazardous waste identified or listed under the regulations in part 261 of Chapter I; household waste as defined in Subsection 261.4(b)(1) of Chapter I; ash from incineration of medical/infectious waste once the incineration process is completed; human corpses, remains, and anatomical parts intended for interment or cremation and domestic sewage materials identified in Subsection 261.4(a)(1) of Chapter I:

(a) Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, innoculate and mix cultures;

(b) Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers;

(c) Human blood and blood products including:

(A) Liquid waste human blood;

(B) Products of blood;

(C) Items saturated and/or dripping with human blood; or

(D) Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers ~~which~~ that were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also included in this category.

~~(c)~~(d) Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with

attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips;

~~(d)~~(e) Animal waste including contaminated animal carcasses, body parts and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals or testing of pharmaceuticals;

~~(e)~~(f) Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases;

~~(f)~~(g) Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes and scalpel blades.

~~(22)~~(30) "Medium HMIWI", except as provided in (i) means:

(a) A HMIWI whose maximum design waste burning capacity is more than 200 pounds per hour but less than or equal to 500 pounds per hour; or

(b) A continuous or intermittent HMIWI whose maximum charge rate is more than 200 pounds per hour but less than or equal to 500 pounds per hour; or

(c) A batch HMIWI whose maximum charge rate is more than 1,600 pounds per day but less than or equal to 4,000 pounds per day. The following are not medium HMIWI:

(A) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 pounds per hour or more than 500 pounds per hour; or

(B) A batch HMIWI whose maximum charge rate is more than 4,000 pounds per day or less than or equal to 1,600 pounds per day.

~~(23)~~(31) "Modification or modified hospital/medical/infectious waste incinerator" means any change to a HMIWI unit after the effective date of these standards such that:

(a) The cumulative costs of the modifications, over the life of the unit, exceed 50 per cent of the original cost of the construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs; or

(b) The change involves a physical change or change in the method of operation of the unit ~~which~~ that increases the amount of any air pollutant emitted by the unit for which standards have been established under Section 129 or Section 111.

(32) "Modular excess-air municipal waste combustion unit" means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers, all of which are designed to operate at conditions with combustion air amounts in excess of theoretical air requirements.

(33) "Modular starved-air municipal waste combustion unit" means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers in which the primary combustion chamber is designed to operate at substoichiometric conditions.

~~(24)~~(34) "Municipal waste combustor plant" means one or more municipal waste combustor units at the same location for which construction was commenced on or before September 20, 1994.

~~(25)~~(35) "Municipal waste combustor plant capacity" means the aggregate municipal waste combustor unit capacity of all municipal waste combustor units at a municipal waste combustor plant for which construction was commenced on or before September 20, 1994.

~~(26)~~(36) "New" means constructed or modified on or after March 13, 1990.

~~(27)~~(37) "Opacity" means the degree to which an emission reduces transmission of light and obscures the view of an object in the background.

~~(28)~~(38) "Particulate Matter" means all solid or liquid material, other than uncombined water, emitted to the ambient air as measured by EPAMethod 5 or an equivalent test method in accordance with the Department Source Test Manual. Particulate matter emission determinations by EPA Method 5 ~~shall~~must consist of the average of three separate consecutive runs having a minimum sampling time of 60 minutes each and a minimum sampling volume of 30.0 dscf each.

~~(29)~~(39) "Parts Per Million (ppm)" means parts of a contaminant per million parts of gas by volume on a dry-gas basis (1 ppm equals 0.0001 percent by volume).

~~(30)~~(40) "Pathological waste" means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material and animal bedding (if applicable).

~~(31)~~(41) "Person" means individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.

~~(32)~~(42) "Primary Combustion Chamber" means the discrete equipment, chamber or space in which drying of the waste, pyrolysis, and essentially the burning of the fixed carbon in the waste occurs.

~~(33)~~(43) "Pyrolisis" means the endothermic gasification of hospital waste and/or medical/infectious waste using external energy.

(44) "Refuse-derived fuel" means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. That includes all classes of refuse-derived fuel including two fuels:

(a) Low-density fluff refuse-derived fuel through densified refuse-derived fuel

(b) Pelletized refuse-derived fuel.

~~(34)~~(45) "Secondary" or "Final Combustion Chamber" means the discrete equipment, chamber, or space in which the products of pyrolysis are combusted in the presence of excess air such that essentially all carbon is burned to carbon dioxide.

~~(35)~~(46) "Small hospital/medical/infectious waste incinerator", except as provided in (i), means:

(a) A HMIWI whose maximum design waste burning capacity is less than or equal to 200 pounds per hour; or

(b) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 pounds per hour; or

(c) A batch HMIWI whose maximum charge rate is less than or equal to 1,600 pounds per day. The following are not small HMIWI:

(A) A continuous or intermittent HMIWI whose maximum charge rate is more than 200 pounds per hour;

(B) A batch HMIWI whose maximum charge rate is more than 1,600 pounds per day.

~~(36)~~(47) "Solid Waste" means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as metal, glass, and rock.

~~(37)~~(48) "Solid Waste Facility" or "Solid Waste Incinerator" means an incinerator ~~which~~ that is operated or utilized for the disposal or treatment of solid waste including combustion for the recovery of heat, and ~~which~~ that utilizes high temperature thermal destruction technologies.

(49) "Spreader stoker, mixed fuel-fired (coal/refuse-derived fuel) combustion unit" means a municipal waste combustion unit that combusts coal and refuse-derived fuel simultaneously, in which coal is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

~~(38)~~(50) "Standard Conditions" means temperature of 68 degrees Fahrenheit (15.6 degrees Celsius) and a pressure of 14.7 pounds per square inch absolute (1.03 kilograms per square centimeter).

~~(39)~~(51) "Startup/Shutdown" means the time during which an air contaminant source or emission control equipment is brought into normal operation and normal operation is terminated, respectively.

~~(40)~~(52) "Transmissometer" means a device that measures opacity and conforms to EPA Specification Number 1 in ~~Title~~ 40~~,~~ CFR~~,~~ ~~Part~~ 60, Appendix B.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]

Stat. Auth.: ORS 183, ORS 468 & ORS 468A

Stats. Implemented: ORS 468A.025

Hist.: [DEQ 22-1998, f. & cert. ef. 10-21-98]; [DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93]; [DEQ 27-1996, f. & cert. ef. 12-11-96]; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0750, 340-025-0855, 340-025-0950

Solid and Infectious Waste Incinerators

340-230-0120

Design and Operation

(1) Temperature and Residence Time. Each incinerator ~~shall~~must be designed and operated to maintain combustion gases at a minimum temperature of 1,800° F. for at least one second residence time. For a multi-chamber incinerator, these parameters must be met after the primary combustion chamber, which ~~shall~~must be maintained at no less than ~~1,400~~1,000° F.

(2) Auxiliary Burners. Each incinerator ~~shall~~must be designed and operated with automatically controlled auxiliary burners capable of maintaining the combustion chamber temperatures specified in section (1) of this rule, and ~~shall~~must have sufficient auxiliary fuel capacity to maintain said temperatures.

(3) Interlocks. Each incinerator ~~shall~~must be designed and operated with an interlock system ~~which~~that:

(a) Prevents charging until the final combustion chamber reaches 1,800° F.;

(b) For batch-fed incinerators, prevents recharging until each combustion cycle is complete;

(c) Ceases charging if the incinerator temperature falls below either 1,800° F. for any continuous 15-minute period; and

(d) Ceases charging if carbon monoxide levels exceed 150 ppm, corrected to seven percent O_2 over a continuous 15-minute period. Existing incinerators may request from the Department, and the Department may grant, an exemption for installing an interlock system, if it can be shown to the satisfaction of the Department that such a system would not allow sufficient flexibility in operation, or that significant technical or economic constraints would prevent retrofitting.

(4) Air Locks. All infectious waste facilities with mechanically fed incinerators ~~shall~~must be designed and operated with an air lock control system to prevent opening the incinerator to the room environment. The volume of the loading system must be designed so as to prevent overcharging to assure complete combustion of the waste.

(5) Flue Gas Outlet Temperature. Each incinerator ~~shall~~must be designed and operated such that the flue gas temperature at the outlet from the primary control device does not exceed 350° F., unless it can be demonstrated that a greater collection of condensible matter can be achieved at a higher outlet temperature.

(6) Combustion efficiency. Except during periods of startup and shutdown, all waste incinerators ~~shall~~must achieve a combustion efficiency of 99.9 percent based on a running eight-hour average, computed as follows: [Table not included. See ED. NOTE.]

(7) Stack Height. All incinerator stacks ~~shall~~must be designed in accordance with Good Engineering Practice (GEP) as defined in ~~Title~~ 40~~,~~ CFR~~,~~ ~~Parts~~ 51.100(ii) and 51.118, in order

to assure compliance with applicable air standards, and to avoid the flow of stack pollutants into any building ventilation intake plenum.

(8) Operator Training and Certification. Each incinerator ~~shall~~must be operated at all times under the direction of one or more individuals who have received training necessary for proper operation. A description of the training program ~~shall~~must be submitted to the Department for approval. A satisfactory training program ~~shall~~ consists of any of the following:
   (a) Certification by the American Society of Mechanical Engineers (ASME)for solid waste incinerator operation; or
   (b) For infectious waste incineration, successful completion of EPA's Medical Waste Incinerator Operator training course; or
   (c) Other certification or training by a qualified organization as to proper operating practices and procedures, which has been pre-approved by the Department ~~prior to~~before enrollment. In addition, the owner or operator of an incinerator facility ~~shall~~must develop and submit a manual for proper operation and maintenance, to be reviewed with employees responsible for incinerator operation on an annual basis.

(9) In cases where incinerator operation may cause odors ~~which~~ that unreasonably interfere with the use and enjoyment of property, the Department may require by permit the use of good practices and procedures to prevent or eliminate those odors.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]

[ED. NOTE: The Table(s) referenced in this rule is not printed in the OAR Compilation. Copies are available from the agency.]

Stat. Auth.: ORS 183, ORS 468 & ORS 468A

Stats. Implemented: ORS 468A.025

Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0870

Municipal Waste Combustors

Large Municipal Waste Combustion Units

340-230-0300
Applicability

(1) Applicability: OAR 340-230-0310 through 340-230-0350 apply to each municipal waste combustor unit ~~located within a municipal waste combustor plant with an aggregate municipal waste combustor plant~~with a combustion capacity greater than ~~35 megagrams~~250 tons per day of municipal solid waste for which construction was commenced on or before September 20, 1994.
   (a) MWC greater than 225 megagrams per day (250 tons per day) that commenced construction after September 20, 1989 and on or before September 20, 1994 are also subject to 40 CFR Part 60 Subpart Ea as adopted under OAR 340-238-0060.
   (b) MWC subject to OAR 340-230-0300 through 340-230-0350 are not subject to the incinerator rules in OAR 340-230-0100 through 340-230-0150.

(2) Exemptions:
   (a) Any municipal waste combustion unit~~at a medical, industrial, or other type of waste combustor plant~~ that is capable of combusting more than ~~35 megagrams~~250 tons per day of municipal solid waste and is subject to a federally enforceable permit limiting the~~plantwide~~ maximum amount of municipal solid waste that may be combusted in the

unit to less than or equal to ~~10 megagrams~~11 tons per day is not subject to this rule if the owner or operator:

(A) Notifies the Department of an exemption claim;

(B) Provides a copy of the federally enforceable permit that limits the firing of municipal solid waste to less than ~~10 megagrams~~11 tons per day; and

(C) Keeps records of the amount of municipal solid waste fired on a daily basis.

(b) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission limits under these rules are not considered in determining whether the unit is a modified or reconstructed facility under 40 CFR ~~Part~~ 60, Subparts Ea or Eb.

(c) A qualifying small power production facility, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy is not subject to these rules if the owner or operator of the facility notifies the Department of this exemption and provides data documenting that the facility qualifies for this exemption.

(d) A qualifying cogeneration facility, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy and steam or forms of useful energy (such as heat) that are used for industrial, commercial, heating, or cooling purposes, is not subject to these rules if the owner or operator of the facility notifies the Department of this exemption and provides data documenting that the facility qualifies for this exemption.

(e) Any unit combusting a single-item waste stream of tires is not subject to this rule if the owner or operator of the unit:

(A) Notifies the Department of an exemption claim; and

(B) Provides data documenting that the unit qualifies for this exemption.

(f) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to these rules.

(g) Any materials recovery facility (including primary or secondary smelters) that combusts waste for the primary purpose of recovering metals is not subject to these rules.

(h) Any cofired combustor, as defined ~~under~~ in 40 CFR ~~Part~~ 60.51b ~~of Subpart Eb~~, that meets the capacity specifications in ~~paragraph~~ section (1) of this rule is not subject to these rules if the owner or operator of the cofired combustor:

(A) Notifies the Department of an exemption claim;

(B) Provides a copy of the federally enforceable permit (specified in the definition of cofired combustor); and

(C) Keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor.

(i) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in 40 CFR 60.51b) are not subject to this rule if the owner or operator of the plastics/rubber recycling unit keeps records of:

(A) The weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis;

(B) The weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and

(C) The name and address of the purchaser of the feedstocks. The combustion of gasoline, diesel fuel, jet fuel, fuel oils, residual oil, refinery gas, petroleum coke, liquified petroleum gas, propane, or butane produced by chemical plants or petroleum

refineries that use feedstocks produced by plastics/rubber recycling units are not subject to these rules.

(j) Air curtain incinerators that meet the capacity specifications in paragraph (a) of this section, and that combust a fuel stream composed of 100 percent yard waste are exempt from all provisions of this subpart except the opacity standard under OAR 340-230-0310, the testing procedures under OAR 340-230-0340, and the reporting and recordkeeping provisions under OAR 340-230-0350.

(k) Air curtain incinerators that meet the capacity specifications in paragraph (a) of this section and that combust municipal solid waste other than yard waste are subject to all provisions of this subpart.

(l) Cement kilns firing municipal solid waste are not subject to this subpart.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]

Stat. Auth.: ORS 468.020
Stats.Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0950

340-230-0310
Emissions Limitations

No person ~~shall~~may cause, suffer, allow, or permit the operation of any affected municipal waste combustor unit in a manner ~~which~~ that violates the following emission limits and requirements:

(1) Particulate~~Matter Emissions:~~

~~(a) For municipal waste combustor units located at large municipal waste combustor plants, particulate~~ matter emissions from each unit ~~shall~~must not exceed 27 milligrams per dry standard cubic meter (0.012 grains per dry standard cubic foot) corrected to 7 percent oxygen;

~~(b) For municipal waste combustor units located at small municipal waste combustor plants, particulate emissions from each unit shall not exceed 70 milligrams per dry standard cubic meter (0.030 grains per dry standard cubic foot) corrected to 7 percent oxygen.~~

(2) Opacity. ~~For municipal waste combustor units located at large and small municipal waste combustor plants, visible emissions from each unit shall~~The emission limit for opacity exhibited by the gases discharged to the atmosphere from a designated facility must not exceed 10 percent opacity as a 6-minute average.

(3) Municipal Waste Combustor Metals:

~~(a) Cadmium:~~

~~(A) For municipal waste combustor units located at large municipal waste combustor plants, cadmium~~(a) Cadmium emissions from each unit ~~shall~~must not exceed 0.040 milligrams per dry standard cubic meter (0.000018 gr/dscf) corrected to 7 percent oxygen.

~~(B) For municipal waste combustor units located at small municipal waste combustor plants, cadmium emissions from each unit shall not exceed 0.10 milligrams per dry standard cubic meter (0.000044 gr/dscf) corrected to 7 percent oxygen.~~

(b)~~Lead:~~

~~(A) For municipal waste combustor units located at large municipal waste combustor plants, lead~~Lead emissions from each unit ~~shall~~must not exceed 0.49 milligrams per dry standard cubic meter (0.00021 gr/dscf) corrected to 7 percent oxygen.

~~(B) For municipal waste combustor units located at small municipal waste combustor plants, lead emissions from each unit shall not exceed 1.6 milligrams per dry standard cubic meter (0.00070 gr/dscf) corrected to 7 percent oxygen.~~

(c) Mercury~~. For municipal waste combustor units located at large and small municipal waste combustor plants, mercury~~ emissions from each unit ~~shall~~must not exceed 0.080

milligrams per dry standard cubic meter (0.000035 gr/dscf) or 15 percent of the potential mercury emission concentration (an 85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

~~(4) Sulfur Dioxide (SO_2):~~

~~(a) For municipal waste combustor units located at large municipal waste combustor plants, sulfur dioxide~~Sulfur dioxide (SO_2) emissions from each unit ~~shall~~must not exceed 31 parts per million by volume or 25 percent of the potential sulfur dioxide emission concentration (75-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean.

~~(b) For municipal waste combustor units located at small municipal waste combustor plants, sulfur dioxide emissions from each unit shall not exceed 50 parts per million by volume or 30 percent of the potential sulfur dioxide emission concentration (70-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean.~~

(5) Hydrogen chloride~~(HCl):~~

~~(a) For municipal waste combustor units located at large municipal waste combustor plants, hydrogen chloride~~(HCl) emissions from each unit ~~shall~~must not exceed 31 parts per million by volume or 5 percent of the potential hydrogen chloride emission concen-tration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.

~~(b) For municipal waste combustor plants located at small municipal waste combustor plants, hydrogen chloride emissions from each unit shall not exceed 50 parts per million by volume or 10 percent of the potential hydrogen chloride emission concentration (90-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.~~

(6) ~~Dioxins/furans:~~

~~(a) For municipal waste combustor units located at large municipal waste combustor plants, the~~The dioxin/furan emissions from each unit ~~shall~~must not exceed:

(a) ~~(A)~~ 60 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for municipal waste combustor units that employ an electrostatic precipitator-based emission control system;

(b) ~~(B)~~ 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for municipal waste combustor units that do not employ an electrostatic precipitator-based emission control system.

~~(b) For municipal waste combustor units located at small municipal waste combustor plants, the dioxin/furan emissions from each unit shall not exceed 125 nanograms per dry standard cubic meter, corrected to 7 percent oxygen.~~

(7) ~~Nitrogen Oxide (NO_x). For municipal waste combustor units located at large municipal waste combustor plants, emissions~~ Emissions of nitrogen oxides from each unit ~~shall~~must not exceed ~~200 ppm as a 24-hour daily arithmetic average~~ 205 parts per million by dry volume corrected to 7 percent O_2.

(8) Fugitive Emissions:

(a) No owner or operator ~~shall~~may cause or allow visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations, except as provided in paragraphs (b) and (c) of this section.

(b) The emission limit specified in paragraph (a) of this section does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however,

the emission limit specified in paragraph (a) of this section does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.

(c) The provisions specified in paragraph (a) of this section do not apply during maintenance and repair of ash conveying systems.

(9) Air Curtain Incinerators. No person may cause, suffer, allow, or permit the operation of any affected air curtain incinerator that burns 100 percent yard waste in a manner that violates the following emission limits and requirements:

(a) The opacity limit is 10 percent (6-minute average) for air curtain incinerators that can combust at least 35 tons per day of municipal solid waste and no more than 250 tons per day of municipal solid waste.

(b) The opacity limit is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0960

340-230-0320
Operating Practices

~~(1) Carbon Monoxide:~~

~~(a) For municipal waste combustor units located at large municipal waste combustor plants, emissions of Carbon Monoxide from each unit shall not exceed 100 ppm corrected to 7 percent O_2 as a four hour block arithmetic average.~~

(1) ~~(b) For municipal waste combustor units located at small municipal waste combustor plants, emissions of Carbon Monoxide from each unit shall not exceed 50 ppm corrected to 7 percent O_2 as a four hour block arithmetic average.~~Emissions of carbon monoxide from each unit ~~shall~~must not exceed 100 parts per million corrected to 7 percent O_2 as a four hour block arithmetic average.

(2) No owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~may cause such facility to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in 40 CFR ~~Part~~ 60.51b~~, Subpart Eb as adopted under OAR 340-238-0060~~ except as specified in paragraphs (a) and (b) of this section. The averaging time ~~shall~~ is a 4-hour block arithmetic average.

(a) During the annual dioxin/furan performance test and the 2 weeks preceding the annual dioxin/furan performance test, no municipal waste combustor unit load limit is applicable.

(b) The municipal waste combustor unit load limit may be waived in accordance with permission granted by the Adminis-trator or the Department in writing for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

(3) No owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~may cause or allow such facility to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17°C above the maximum demonstrated particulate matter control device temperature as defined in 40 CFR 60.51b ~~subpart Eb as adopted under OAR 340-238-0060~~, except as specified in paragraphs (a) and (b) of this section. The averaging time ~~shall~~must be a 4-hour block arithmetic average. The

requirements specified in this paragraph apply to each particulate matter control device utilized at the affected facility.

(a) During the annual dioxin/furan performance test and the 2 weeks preceding the annual dioxin/furan performance test, no particulate matter control device temperature limitations are applicable.

(b) The particulate matter control device temperature limits may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0970

340-230-0330
Operator Training and Certification

(1) Each chief facility operator and shift supervisor ~~shall~~must have completed full certification with either the American Society of Mechanical Engineers [QRO-1-1994 -- see 40 CFR 60.17] or other State approved certification program.

(2) If a chief facility operator or shift supervisor is not fully certified in accordance with OAR 340-230-0330(1), the chief facility operator or shift supervisor must obtain and maintain a current provisional operator certification from either the American Society of Mechanical Engineers (ASME) [QRO-1-1994 -- see 40 CFR 60.17] or other State approved certification and must have scheduled a full certification exam with either the ASME [QRO-1-1994] or other State approved certification program.

(3) No owner or operator of an affected facility~~located within a small or large municipal waste combustor plant shall~~may allow the facility to be operated at any time unless one of the following persons is on duty and at the affected facility: A fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam.

(4) If one of the persons listed in OAR 340-230-0330(3) must leave the affected facility during their operating shift, a provisionally certified control room operator who is onsite at the affected facility may fulfill the requirement in OAR 340-230-0330(3).

~~(5) All chief facility operators, shift supervisors, and control room operators at affected facilitieslocated within a small or large municipal waste combustor plant must complete the EPA or State municipal waste combustor operator training course no later than the compliance date specified in OAR 340-230-0360 except asprovided in (a) and (b) of thissection.~~

~~(a) The requirement specified in OAR 340-230-0330(5) does not apply to chief facility operators, shift supervisors, and control room operators who have obtained full certification from the American Society of Mechanical Engineers or other State-approved certification program on or before June 19, 1997.~~

~~(b) The owner or operator may request that the Department waive the requirement specified in OAR 340-230-0330(5) for chief operators, shift supervisors, and control operators who have obtained provisional certification from the American Society of Mechanical Engineers or other State-approved certification program on or before June 19, 1997.~~

(5~~6~~) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant shall~~must develop and update on a yearly basis a site-specific operating

manual that, at a minimum, addresses the elements of municipal waste combustor unit operation specified below:

(a) A summary of the applicable standards under OAR 340-230-0300 through 340-230-0~~360~~350;

(b) A description of basic combustion theory applicable to a municipal waste combustor unit;

(c) Procedures for receiving, handling, and feeding municipal solid waste;

(d) Municipal waste combustor unit startup, shutdown, and malfunction procedures;

(e) Procedures for maintaining proper combustion air supply levels;

(f) Procedures for operating the municipal waste combustor unit within the standards established under OAR 340-230-0300 through 340-230-0~~360~~350;

(g) Procedures for responding to periodic upset or off-specification conditions;

(h) Procedures for minimizing particulate matter carryover;

(i) Procedures for handling ash;

(j) Procedures for monitoring municipal waste combustor unit emissions; and

(k) Reporting and recordkeeping procedures.

(~~7~~6) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~must establish a training program to review the operating manual according to the schedule specified in (a) and (b) of this section with each person who has responsibilities affecting the operation of an affected facility including, but not limited to, chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.

(a) Each person specified in OAR 340-230-0330(~~6~~7) ~~shall~~must undergo initial training no later than the date specified in (a)(A) or (B), whichever is later.

(A) The date ~~prior to~~before the day the person assumes responsibilities affecting municipal waste combustor unit operation; or

(B) June 19, 1998.

(b) Annually, following the initial review.

(~~7~~8) The operating manual required by OAR 340-230-0330(~~6~~5) ~~shall~~must be kept in a readily accessible location for all persons required to undergo training under ~~paragraph~~ OAR 340-230-0330(~~6~~7). The operating manual and records of training ~~shall~~must be available for inspection by the EPA or the Department upon request.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0980

340-230-0340
Monitoring and Testing

(1) The standards under OAR 340-230-0310 apply at all times except during periods of startup, shutdown, or malfunction. Duration of startup, shutdown, or malfunction periods are limited to 3 hours per occurrence except as provided in subsection (c) of this section.

(a) The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warmup period when the affected facility is combusting fossil fuel or other nonmunicipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(b) Continuous burning is the continuous, semicontinuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning.

(c) For purposes of compliance with the carbon monoxide emissions limit in OAR 340-230-320(1), if a loss of boiler water level control (e.g., boiler waterwall tube failure) or a loss of combustion air control (e.g., loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence.

(2) The owner or operator of ~~a small or large municipal waste combustor plant shall~~an affected facility must install, calibrate, maintain, and operate a continuous emission monitoring system and record the output of the system for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide, or nitrogen oxides emissions are monitored and ~~shall~~must comply with test procedures and test methods specified below.

(a) The span value of the oxygen (or carbon dioxide) monitor ~~shall be~~ is 25 percent oxygen (or carbon dioxide).

(b) The monitor ~~shall~~must be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(c) The monitor ~~shall~~must conform to Performance Specification 3 in appendix B of 40 CFR ~~Part~~ 60 except for section 2.3 (relative accuracy requirement).

(d) The quality assurance procedures of Appendix F of ~~this part~~40 CFR 60 except for section 5.1.1 (relative accuracy test audit) ~~shall~~ apply to the monitor.

(e) If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels ~~shall~~must be established by the owner or operator during the ~~first~~initial performance test after December 31, 1997, but not later than June 8, 2004, according to the following procedures and methods. This relationship may be reestablished during subsequent performance compliance tests.

(A) The emission rate correction factor and the integrated bag sampling and analysis procedure of EPA Reference Method 3B ~~shall~~must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(B) Samples ~~shall~~must be taken for at least 30 minutes in each hour.

(C) Each sample ~~shall~~must represent a 1-hour average.

(D) A minimum of three runs ~~shall~~must be performed.

(f) The relationship between carbon dioxide and oxygen concentrations that is established in accordance with (e) of this section ~~shall~~must be submitted to the Department as part of the performance test report for the first test conducted after December 31, ~~1997.~~2003.

(3) The procedures and test methods specified below ~~shall~~must be used to determine compliance with the emission limits for particulate matter and opacity.

(a) EPA Reference Method 1 ~~shall~~must be used to select sampling site and number of traverse points.

(b) EPA Reference Method 3 or 3A ~~shall~~must be used for gas analysis.

(c) EPA Reference Method 5 ~~shall~~must be used for determining compliance with the particulate matter emission limit. The minimum sample volume ~~shall~~must be 1.7 cubic meters (60 cubic feet). The probe and filter holder heating systems in the sample train ~~shall~~must be set to provide a gas temperature no less than or greater than 160 ± 14°C (320 ± 25°F). An oxygen or carbon dioxide measurement ~~shall~~must be obtained simultaneously with each Method 5 run.

(d) An owner or operator may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(e) All performance tests ~~shall~~must consist of at least three test runs conducted under representative full load operating conditions and at least two of the test runs must be

valid. The average of the particulate matter emission concentrations from all valid test runs is used to determine compliance.

(f) EPA Method 9 ~~shall~~ is to be used for determining compliance with the opacity limit except as provided under 40 CFR 60.11(e).

(g) The owner or operator of an affected facility ~~shall~~must install, calibrate, maintain, and operate a continuous opacity monitoring system for measuring opacity and ~~shall~~must follow the methods and procedures specified by 40 CFR 60.13.

(A) The output of the continuous opacity monitoring system ~~shall~~must be recorded on a 6-minute average basis.

(B) The continuous opacity monitoring system ~~shall~~must conform to Performance Specification 1 in appendix B of 40 CFR ~~Part~~ 60.

(h) For each affected~~facility located within a large municipal waste combustor plant, the owner or operator shall conduct a per-formance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test).~~

~~(i) For each affected facility located within a small municipal waste combustor plant,~~facility, the owner or operator ~~shall~~must conduct a performance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test). ~~If all performance tests over a 3-year period indicate compliance with the particulate matter~~

~~emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for particulate matter shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the particulate matter emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the particulate matter emission limit, performance tests shall beare required annually until all annual performance tests over a 3-year period indicate compliance with the particulate matter emission limit.~~

(i) ~~(j)~~ For each affected facility ~~located within a small or large municipal waste combustor plant~~, the owner or operator ~~shall~~must conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test) using the test method specified in ~~paragraph~~ (3)(f) of this ~~section~~rule.

(4) The procedures and test methods specified below ~~shall~~must be used to determine compliance with the emission limits for cadmium, lead, and mercury.

(a) The procedures and test methods specified below ~~shall~~must be used to determine compliance with the emission limits for cadmium and lead.

(A) EPA Reference Method 1 ~~shall~~must be used for determining the location and number of sampling points.

(B) EPA Reference Method 3, 3A or ~~3A~~3B ~~shall~~must be used for flue gas analysis.

(C) EPA Reference Method 29 ~~shall~~must be used for determining compliance with the cadmium and lead emission limits. The minimum sample volume ~~shall be~~ is 1.7 dscm (60 dscf).

(D) An oxygen or carbon dioxide measurement ~~shall~~must be obtained simultaneously with each Method 29 test run for cadmium and lead.

(E) An owner or operator may request that compliance with the cadmium or lead emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(F) All performance tests must consist of at least three test runs conducted under representative full load operating conditions and at least two of the test runs must be

valid. The average of the cadmium and lead emission concentrations from all valid test runs is used to determine compliance.

(G) For each affected facility ~~located within a large municipal waste combustor plant~~, the owner or operator ~~shall~~must conduct a performance test for compliance with the emission limits for cadmium and lead on an annual basis (no more than 12 calendar months following the previous performance test), thereafter.

~~(H) For each affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for cadmium emissions and on an annual basis (no more than 12 calendar months following the previous performance test). If all performance tests over a 3 year period indicate compliance with the cadmium emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for cadmium shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the cadmium emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the cadmium emission limit, performance tests shall be conducted annually until all annual performance tests over a 3 year period indicate compliance with the cadmium emission limit.~~

~~(I) For each affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for lead emissions on an annual basis (no more than 12 calendar months following the previous performance test. If all performance tests over a 3 year period indicate compliance with the lead emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for lead shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the lead emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the lead emission limit, performance tests shall be conducted annually until all annual performance tests over a 3 year period indicate compliance with the leademission limit.~~

(b) The procedures and test methods specified below ~~shall~~must be used to determine compliance with the mercury emission limit.

(A) EPA Reference Method 1 ~~shall~~must be used for determining the location and number of sampling points.

(B) EPA Reference Method 3, 3A or ~~3A~~3B ~~shall~~must be used for flue gas analysis.

(C) EPA Reference Method 29 ~~shall~~must be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury ~~shall~~ is be 1.7 cubic meters (60 cubic feet).

(D) An oxygen (or carbon dioxide) measurement ~~shall~~must be obtained simultaneously with each Method 29 test run for mercury.

(E) The percent reduction in the potential mercury emissions (%PHg) is computed using equation ~~1~~:2: [Equation not included. See ED. NOTE.]

(F) All performance tests must consist of at least three test runs conducted under representative full load operating conditions and at least two of the test runs must be valid. The average of the mercury emission concentrations from all valid test runs is used to determine compliance.

(G) An owner or operator may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7

percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(H) The owner or operator of an affected facility~~located within a large municipal waste combustor plant~~ ~~shall~~must conduct a performance test for mercury emissions on an annual basis (no more than 12 calendar months from the previous performance test).

~~(I) For each affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a per-formance test for mercury emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all three performance tests over a 3-year period indicate compliance with the mercury emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for mercury shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the mercury emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the mercury emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicatecompliance with the mercury emission limit.~~

(I) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit ~~shall~~must follow the procedures specified in OAR 340-230-0340(12) for measuring and calculating carbon usage.

(5) The procedures and test methods specified below ~~shall~~must be used for determining compliance with the sulfur dioxide emission limit.

(a) Compliance with the sulfur dioxide emission limit ~~shall~~must be determined based on the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data if compliance is based on an emission concentration, or continuous emission monitoring system inlet and outlet data if compliance is based on a percent reduction.

(b) EPA Reference Method 19, section 4.3, ~~shall~~must be used to calculate the daily geometric average sulfur dioxide emission concentration.

(c) EPA Reference Method 19, section 5.4, ~~shall~~must be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration.

(d) An owner or operator may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(e) The owner or operator of an affected facility ~~shall~~must install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system in accordance with 40 CFR 60.13. If showing compliance with the percent reduction standards, the owner or operator ~~shall~~must also install, calibrate, maintain, and operate a continuous monitoring system for measuring the sulfur dioxide concentration at the inlet to the sulfur dioxide control device and record the output in accordance with 40 CFR 60.13.

(f) At a minimum, valid continuous monitoring system hourly averages ~~shall~~must be obtained for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(A) At least two data points, separated by at least 15 minutes, per hour ~~shall~~must be used to calculate each 1-hour arithmetic average.

(B) Each sulfur dioxide 1-hour arithmetic average ~~shall~~must be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(g) The 1-hour arithmetic averages ~~shall~~must be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages ~~shall~~must be calculated using the data points required under 40 CFR 60.13(e)(2).

(h) All valid continuous emission monitoring system data ~~shall~~must be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements are not met.

(i) The continuous emission monitoring system ~~shall~~must be operated according to Performance Specification 2 in appendix B of 40 CFR ~~Part~~ 60.

(A) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in appendix B of 40 CFR ~~Part~~ 60, sulfur dioxide and oxygen (or carbon dioxide) ~~shall~~must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified as follows: For sulfur dioxide, EPA Reference Method 6, 6A, or 6C ~~shall~~must be used; and, for oxygen (or carbon dioxide), EPA Reference Method 3, 3A or 3B ~~shall~~must be used.

(B) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device ~~shall~~must be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device ~~shall~~must be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit.

(j) Quarterly accuracy determinations and daily calibration tests ~~shall~~must be performed in accordance with procedure 1 in Appendix F of 40 CFR ~~Part~~ 60.

(k) When sulfur dioxide emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data ~~shall~~must be obtained by using other monitoring systems as approved by the Department or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day that the affected facility is operated and combusting municipal solid waste for 90 percent of the days per calendar quarter that the affected facility is operated and combusting municipal solid waste.

(6) The procedures and test methods specified below ~~shall~~must be used for determining compliance with the hydrogen chloride emission limit.

(a) EPA Reference Method 26 or 26A, as applicable, ~~shall~~must be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 ~~shall~~must be 1 hour.

(b) An oxygen (or carbon dioxide) measurement ~~shall~~must be obtained simultaneously with each Method 26 test run for hydrogen chloride.

(c) The percent reduction in potential hydrogen chloride emissions (% PHCl) is computed using equation ~~2.~~3: [Equation not included. See ED. NOTE.]

(d) An owner or operator may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(e) All performance tests must consist of at least three test runs conducted under representative full load operating conditions and at least two of the test runs must be

valid. The average of the hydrogen chloride emission concentrations from all valid test runs is used to determine compliance.

(f) The owner or operator of an affected facility ~~located within a large municipal waste combustor plant shall~~must conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test).

~~(g) The owner or operator of an affected facility located within a small municipal waste combustor plant shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all performance tests over a 3-year period indicate compliance with the hydrogen chloride emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for hydrogen chloride shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the hydrogen chloride emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the hydrogen chloride emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the hyd.~~

(7) The procedures and test methods specified below ~~shall~~must be used by the owner or operator to determine compliance with the limits for dioxin/furan emissions.

(a) EPA Reference Method 1 ~~shall~~must be used for determining the location and number of sampling points.

(b) EPA Reference Method 3, **3A** or ~~**3A**~~**3B** ~~shall~~must be used for flue gas analysis.

(c) EPA Reference Method 23 ~~shall~~must be used for determining the dioxin/furan emission concentration.

(A) The minimum sample time ~~shall be~~ is 4 hours per test run.

(B) An oxygen (or carbon dioxide) measurement ~~shall~~must be obtained simultaneously with each Method 23 test run for dioxins/furans.

(d) The owner or operator of an affected facility~~located within small and large municipal waste combustor plants shall~~must conduct performance tests for dioxin/furan emissions according to ~~one of~~ the following schedules.

~~(A)For affected facilities located within small and large municipal waste combustor plants, p~~Performance tests ~~shall~~must be conducted on an annual basis (no more than 12 calendar months following the previous performance test.)

~~(B) For affected facilities located within small municipal waste combustor plants where all performance tests for an affected facility over a 3-year period indicate compliance with the dioxin/furan emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years for that affected facility. At a minimum, a performance test for dioxin/furan emissions shall be conducted every third year (no more than 36 months following the previous performance test) for each affected facility. If a performance test conducted every third year indicates compliance with the dioxin/furan emission limit, the owner or operator may elect not to conduct a performance test on the affected facility for an additional 2 years. If any performance test indicates noncompliance with the dioxin/furan emission limit, performance tests shall be conducted annually until all annual performance tests for the affected facility over a 3-year period indicate compliance with the dioxin/furan emission limit.~~

~~(C) For affected facilities located within large municipal waste combustor plants w~~Where all performance tests for all affected facilities over a 2-year period indicate that dioxin/furan emissions are less than or equal to ~~15~~ 7 nanograms per dry standard cubic meter (total mass)~~ for all affected facilities located within a municipal waste~~

~~combustor plant~~, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions ~~shall~~must be conducted annually (no more than 12 months following the previous performance test) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the municipal waste combustor plant ~~shall~~must be tested, and the affected facilities at the plant ~~shall~~must be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to ~~15~~ 7 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than ~~15~~ 7 nanograms per dry standard cubic meter (total mass), performance tests thereafter ~~shall~~must be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to ~~15~~ 7 nanaograms per dry standard cubic meter (total mass).

~~(D) For affected facilities located within small municipal waste combustor plants where all performance tests for all affected facilities over a 2-year period indicate that dioxin/furan emissions are less than or equal to 30 nanograms per dry standard cubic meter (total mass) for all affected facilities located within a municipal waste combustor plant, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted annually (no more than 12 months following the previous performance test) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 30 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than 30 nanograms per dry standard cubic meter (total mass), performance tests thereafter shall be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 30 nanograms per dry standard cubic meter (total mass).~~

(e) The owner or operator of an affected facility where activated carbon is used to comply with the dioxin/furan emission limits or the dioxin/furan emission level specified in OAR ~~340-230-0340(7)(d)(C) or (D)~~340-230-0340(7)(d) ~~shall~~must follow the procedures specified in OAR 340-230-0340(13~~2~~) for measuring and calculating the carbon usage rate.

(f) An owner or operator may request that compliance with the dioxin/furan emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(g) All performance tests must consist of at least three test runs conducted under representative full load operating conditions and at least two of the test runs must be valid. The average of the dioxin/furan emission concentrations from all valid test runs is used to determine compliance.

(8) The procedures and test methods specified below ~~shall~~must be used to determine compliance with the nitrogen oxides emission limit for~~municipal waste combustors located at large municipal waste combustor plants (no nitrogen oxides performance tests are required for~~ affected facilities~~located within small municipal waste combustor plants~~).

(a) Compliance with the nitrogen oxides emission limit ~~shall~~must be determined by using the continuous emission monitoring system specified in OAR 340-230-0340(8)(c) for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(b) An owner or operator may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(c) The owner or operator ~~shall~~must install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system in accordance with 40 CFR 60.13.

(d) At a minimum, valid continuous emission monitoring system hourly averages ~~shall~~must be obtained for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(A) At least 2 data points, separated by at least 15 minutes, per hour ~~shall~~must be used to calculate each 1-hour arithmetic average.

(B) Each nitrogen oxides 1-hour arithmetic average ~~shall~~must be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(e) The 1-hour arithmetic averages ~~shall~~must be expressed in parts per million by volume corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations.

(f) All valid continuous emission monitoring system data must be used in calculating emission averages even if the minimum continuous emission monitoring system data requirements are not met.

(g) The owner or operator ~~shall~~must operate the continuous emission monitoring system according to Performance Specification 2 in Appendix B of 40 CFR ~~Part~~ 60 and ~~shall~~must follow the procedures and methods specified as follows:

(A) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in Appendix B of 40 CFR ~~Part~~ 60, nitrogen oxides and oxygen (or carbon dioxide) ~~shall~~must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified as follows: For nitrogen oxides, EPA Reference Methods 7, 7A, 7C, 7D, or 7E ~~shall~~must be used; and, for oxygen (or carbon dioxide), EPA Reference Method 3, 3A or 3B ~~shall~~must be used.

(B) The span value of the continuous emission monitoring system ~~shall be~~ is 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the municipal waste combustor unit.

(h) Quarterly accuracy determinations and daily calibration drift tests ~~shall~~must be performed in accordance with procedure 1 in Appendix F of 40 CFR Part 60.

(i) When nitrogen oxides continuous emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data ~~shall~~must be obtained using other monitoring systems as approved by the Department or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day for 90 percent of the days per calendar quarter the unit is operated and combusting municipal solid waste.

(9) The procedures specified below must be used for determining compliance with the opacity limit for air curtain incinerators.

(a) EPA Reference Method 9 must be used to determine compliance with the opacity limit.

(b) The owner or operator of the air curtain incinerator must conduct an initial performance test for opacity as required by 40 CFR Part 60.8.

(c) Following the date that the initial performance test is completed the owner or operator of the air curtain incinerator must conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test).

(10) ~~(9)~~ The procedures specified below ~~shall~~must be used for determining compliance with the operating requirements under OAR 340-230-0320.

(a) The owner or operator of an affected facility ~~shall~~must install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system in accordance with 40 CFR 60.13 and the following:

(A) Compliance with the carbon monoxide emission limits ~~shall~~must be determined using a 4-hour block arithmetic average ~~for all types of affected facilities~~.

(B) The owner or operator of an affected facility must install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system following the procedures below.

(i) ~~(B)~~ The continuous emission monitoring system ~~shall~~must be operated according to Performance Specification 4A in 40 CFR 60, Appendix B.

(ii) ~~(C)~~ During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in Appendix B of 40 CFR Part 60, carbon monoxide and oxygen (or carbon dioxide) ~~shall~~must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified as follows: For carbon monoxide, EPA Reference Methods 10, 10A, or 10B ~~shall~~must be used; and, for oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B ~~shall~~must be used.

(iii) ~~(D)~~ The span value of the continuous emission monitoring system ~~shall~~must be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the municipal waste combustor unit.

(E) The 4-hour block and 24-hour daily arithmetic averages ~~shall~~must be calculated from 1-hour arithmetic averages expressed in parts per million by volume corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages ~~shall~~must be calculated using the data points generated by the continuous emission monitoring system. At least two data points, separated by at least 15 minutes, per hour ~~shall~~must be used to calculate each 1-hour arithmetic average.

(F) An owner or operator may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility ~~shall~~must be established as specified in OAR 340-230-0340(2)(e).

(G) At a minimum, valid continuous emission monitoring system hourly averages ~~shall~~must be obtained for 75 percent of the hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(H) All valid continuous emission monitoring system data must be used in calculating carbon monoxide emission even if the minimum data requirements are not met.

(I) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system ~~shall~~must be performed in accordance with procedure 1 ~~in Appendix F of~~ of 40 CFR ~~Part~~ 60, Appendix F (2002).

(b) The procedures specified below ~~shall~~must be used by the owner or operator to determine compliance with load level requirements under OAR 340-230-0320.

(A) The owner or operator of an affected facility with steam generation capability ~~shall~~must install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow ~~shall~~must be calculated in 4-hour block arithmetic averages.

(B) The method included in the "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1 -- 1964 (R1991)" section 4 (incorporated by reference, see 40 CFR ~~40 CFR~~ 60.17) ~~shall~~must be used for calculating the steam (or feedwater) flow. The recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971)," chapter 4 (incorporated by reference -- see 40 CFR ~~40 CFR~~ 60.17(h)(3)) ~~shall~~must be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified below:

(i) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(ii) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, and at least once per year.

(C) The owner or operator of an affected facility without steam generation capability is not required to monitor unit load.

(D) The maximum demonstrated municipal waste combustor unit load must be the highest 4-hour arithmetic average load achieved during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved.

(c) To determine compliance with the maximum particulate matter control device temperature requirements, the owner or operator of an affected facility ~~shall~~must install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized by the affected facility.

(A) Temperature ~~shall~~must be calculated in 4-hour block arithmetic averages.

(B) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature ~~shall~~must be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan limit was achieved.

(d) At a minimum, valid continuous load level and control device inlet temperature monitoring system hourly averages ~~shall~~must be obtained for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(A) At least two data points, separated by at least 15 minutes, per hour ~~shall~~must be used to calculate each 1-hour arithmetic average.

(B) All valid continuous emission monitoring system data must be used in calculating the parameters specified under OAR 340-230-0340(9) even if the minimum data requirements are not met. When carbon monoxide continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs,

calibration checks, and zero and span adjustments, emissions data ~~shall~~must be obtained using other monitoring systems as approved by the Department or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(11) The procedures specified below ~~shall~~must be used for calculating municipal waste combustor unit capacity as defined ~~under~~ by 40 CFR 60.51b ~~subpart Eb as adopted under OAR 340-238-0060~~.

(a) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity, in megagrams per day of municipal solid waste combusted, ~~shall~~must be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate ~~shall~~must be determined by one of the following procedures, as applicable:

(A) For combustors that are designed based on heat capacity, the maximum charging rate ~~shall~~must be calculated based on the maximum design heat input capacity of the unit and a heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram ~~for~~ for combustors firing municipal solid waste that is not refuse-derived fuel.

(B) For combustors that are not designed based on heat capacity, the maximum charging rate ~~shall~~ is the maximum design charging rate.

(b) For batch feed municipal waste combustor units, municipal waste combustor unit capacity, in megagrams per day of municipal solid waste combusted, ~~shall~~must be calculated as the maximum design amount of municipal solid waste that can be charged per batch multiplied by the maximum number of batches that could be processed in a 24-hour period. The maximum number of batches that could be processed in a 24-hour period is calculated as 24 hours divided by the design number of hours required to process one batch of municipal solid waste, and may include fractional batches (e.g., if one batch requires 16 hours, then 24/16, or 1.5 batches, could be combusted in a 24-hour period). For batch combustors that are designed based on heat capacity, the design heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for ~~all~~combustors firing municipal solid waste that is not refuse-derived fuel must be used in calculating the municipal waste combustor unit capacity in megagrams per day of municipal solid waste.

(12) The procedures specified below ~~shall~~must be used for determining compliance with the fugitive ash emission limit.

(a) EPA Reference Method 22 ~~shall~~must be used for determining compliance with the fugitive ash emission limit. The minimum observation time ~~shall~~must be a series of three 1-hour observations. The observation period ~~shall~~must include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.

(b) The average duration of visible emissions per hour ~~shall~~must be calculated from the three 1-hour observations. ~~The average shall be used to~~ The Department will use the average to determine compliance.

(c) The owner or operator of an affected facility ~~shall~~must conduct a performance test for fugitive ash emissions on an annual basis (no more than 12 months following previous performance tests).

(13) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit, or the dioxin/furan emission limits, or the dioxin/furan emission level specified in OAR ~~340-230-0340(7)(d)(C) or (D)~~340-230-0340(7)(d) ~~shall~~must follow the procedures specified below:

(a) ~~(a)~~ During any performance test for dioxins/furans and mercury, as applicable, the owner or operator ~~shall~~must estimate an average carbon mass feed rate based on carbon injection system operating parameters such as the screw feeder speed, hopper volume,

hopper refill frequency, or other parameters appropriate to the feed system being employed, as specified below:

(A) An average carbon mass feed rate in kilograms per hour or pounds per hour ~~shall~~must be estimated during each performance test for mercury emissions.

(B) An average carbon mass feed rate in kilograms per hour or pounds per hour ~~shall~~must be estimated during each performance test for dioxin/furan emissions.

(b) During operation of the affected facility, the carbon injection system operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) must equal or exceed the level(s) documented during the performance tests specified under (a)(A) or (B) of this section.

(c) The owner or operator ~~shall~~must estimate the total carbon usage of the plant (kilograms or pounds) for each calendar quarter by two independent methods, according to the procedures specified below:

(A) The weight of carbon delivered to the plant.

(B) Estimate the average carbon mass feed rate in kilograms per hour or pounds per hour for each hour of operation for each affected facility based on the parameters specified under (a) of this section, and sum the results for all affected facilities at the plant for the total number of hours of operation during the calendar quarter.

(14) Continuous monitoring for opacity, sulfur dioxide, nitrogen oxides, carbon monoxide,and diluent gases (oxygen or carbon dioxide) ~~shall~~must be conducted in accordance with the Department's Continuous Monitoring Manual and the specific requirements of this rule. If at any time there is a conflict between the Department's Continuous **Monitoring Manual** and the federal requirements ~~(~~contained in **40 CFR 60.13, Appendix B**~~,~~ and **Appendix F**), the federal requirements ~~shall~~must govern.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.02
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0990

340-230-0350
Recordkeeping and Reporting

(1) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant and~~ subject to the standards ~~under~~ contained in OAR 340-230-0300 through 340-230-0~~360~~350 ~~shall~~must maintain records of the applicable information specified below~~, as applicable,~~ for each affected facility for a period of at least 5 years. The information ~~shall~~must be available for submittal to the Department or for review onsite by an inspector.

(a) The calendar date of each record.

(b) The following emission concentrations and parameters measured using continuous monitoring systems:

(A) All 6-minute average opacity levels.

(B) All 1-hour average sulfur dioxide emission concentrations.

(C) All 1-hour average nitrogen oxides emission concentrations ~~(large municipal waste combustor plants only)~~.

(D) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements (if applicable), and particulate matter control device inlet temperatures.

(E) All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions.

(F) All 24-hour daily arithmetic average nitrogen oxides emission concentrations ~~(large municipal waste combustor plants only)~~.

(G) All 4-hour block arithmetic average carbon monoxide emission concentrations.

(H) All 4-hour block arithmetic average municipal waste combustor unit load levels (if applicable) and particulate matter control device inlet temperatures.

(c) Identification of the calendar dates when any of the average opacity levels, emission concentrations, percent reductions, or operating parameters recorded under OAR 340-230-0350(1)(b) are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

(d) For affected facilities that apply activated carbon for mercury or dioxin/furan control, the records specified below:

(A) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated during each mercury emissions performance test, with supporting calculations.

(B) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated during each dioxin/furan emissions performance test, with supporting calculations.

(C) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated for each hour of operation, with supporting calculations.

(D) The total carbon usage for each calendar quarter estimated, with supporting calculations.

(E) Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).

(e) Identification of the calendar dates for which the minimum number of hours of any of the data specified below have not been obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(A) Sulfur dioxide emissions data;

(B) Nitrogen oxides emissions data ~~(large municipal waste combustor plants only)~~;

(C) Carbon monoxide emissions data;

(D) Municipal waste combustor unit load data; and

(E) Particulate matter control device temperature data.

(F) For affected facilities that apply activated carbon for mercury or dioxin/furan control, carbon usage and carbon injection system operating parameter data.

(f) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data ~~(large municipal waste combustors only)~~, or operational data (i.e., carbon monoxide emissions, unit load, and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

(g) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides ~~(large municipal waste combustors only)~~, and carbon monoxide continuous emission monitoring systems, as required by **40 CFR 60.13** and **Procedure 1** of **40 CFR 60.13, Appendix F**.

(h) The test reports documenting the results of all performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits, including the oxygen/carbon dioxide relationship (if applicable according to OAR 340-230-0340(2)(e)) be recorded along with supporting calculations and the following information:

(A) For the first dioxin/furan performance test conducted after December 31, 1997 and all subsequent dioxin/furan performance tests, the maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device); and

(B) For affected facilities that apply carbon for mercury or dioxin/furan control, the average carbon injection rate during the first mercury or dioxin/furan performance

test conducted after December 31, 1997 and all subsequent mercury or dioxin/furan performance tests.

(i) Training records as specified below:

(C) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program, including the dates of initial and renewal certifications and documentation of current certification.

(D) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program, including the dates of initial and renewal certifications and documentation of current certification.

(E) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a State-approved equivalent course, including documentation of training completion.

(F) Records showing the names of persons who have completed a review of the operating manual, including the date of the initial review and subsequent annual reviews.

(i) For affected facilities that apply activated carbon for mercury or dioxin/furan control:

(A) ~~Adentification~~Identification of the calendar dates when the average carbon mass feed rates were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions with reasons for such feed rates and a description of corrective actions taken.

(B) Identification of the calendar dates when the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate (e.g., screw feeder speed) are below the level(s) estimated during the performance tests, with reasons for such occurrences and a description of corrective actions taken.

(j) For ~~large municipal waste combustor plants~~affected facilities installing additional controls, ~~in accordance with the compliance schedule in OAR 340-230-0360(2),~~ records of semi-annual progress reports.

(2) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~must submit the following information in a performance test report within 60 days following the completion of each performance test:

(a) The test report documenting the performance test recorded under ~~paragraph~~ subsection (1)(h) of this rule for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, fugitive ash emissions;

(b) The oxygen/carbon dioxide relationship established in accordance with OAR 340-230-0340(2)(e), if applicable;

(c) Data as recorded under paragraphs (1)(b)(A) and (1)(b)(E) through (1)(b)(H) of this rule for three consecutive days coinciding with each performance test;

(d) Unless previously submitted, the performance evaluation of the continuous emission monitoring systems using the applicable performance specifications in 40 CFR 60.13 Appendix B;

(e) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the dioxin/furan performance test;

(f) For affected facilities that apply activated carbon injection for mercury control, the owner or operator ~~shall~~must submit the average carbon mass feed rate recorded during the mercury performance test; and

(g) For affected facilities that apply activated carbon injection for dioxin/furan control, the owner or operator ~~shall~~must submit the average carbon mass feed rate recorded during the dioxin/furan performance test.

(3) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~must submit semi-annual reports including the following information, as applicable, no later than July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year.

(a) A summary of data collected for all pollutants and parameters regulated under this rule, which includes the following information:

(A) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during any performance tests conducted during the reporting period.

(B) A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature recorded during the reporting period.

(C) List the highest opacity level measured and recorded during the reporting period.

(D) The total number of days that the minimum number of hours of data for opacity, sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature data were not obtained based on the data recorded during the reporting period.

(E) The total number of hours that data for opacity, sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded during the reporting period.

(b) The summary of data reported under OAR 340-230-0350(3)(a) ~~shall~~must also provide the types of data specified in OAR 340-230-0350(3)(a) for the calendar year preceding the year being reported, in order to provide the Department with a summary of the performance of the affected facility over a 2-year period.

(c) The summary of data including the information specified in OAR 340-230-0350(3)(a) and (b) ~~shall~~must highlight any emission or parameter levels that did not achieve the emission or parameter limits specified by OAR 340-230-0310 through 340-230-0320.

(d) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in OAR ~~340-230-0340(7)(d)(C) or (D)~~340-230-0340(7)(d) during the following calendar year.

(4) The owner or operator of an affected facility~~located within a small or large municipal waste combustor plant~~ ~~shall~~must submit a semiannual report that includes the following information for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit by July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year.

(a) The semiannual report ~~shall~~must include information recorded under subsection (1)(c) of this rule for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity.

(b) For each date recorded and reported, the semiannual report ~~shall~~must include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data, as applicable and as recorded by paragraphs (1)(b)(A) and (E) through (H) of this rule.

(c) If the test reports recorded under subsection (1)(h) of this rule document any particulate matter, opacity, cadmium, lead, mercury, dioxins/ furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report ~~shall~~must include a copy of the emission levels and the corrective actions taken.

(d) The semiannual report ~~shall~~must include the information recorded under paragraph (1)(j)(B) of this rulefor the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(e) For each operating date reported under subsection (4)(d) of this rule, the semiannual report ~~shall~~must include the carbon feed rate data recorded under paragraph (1)(d)(C) of this rule.

(5) All reports specified under OAR 340-230-0350(2), (3), and (4) ~~shall~~must be submitted as a paper copy, postmarked on or before the submittal dates specified, and maintained onsite as a paper copy for a period of 5 years.

(6) All records specified under OAR 340-230-0350(1) ~~shall~~must be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Department.

(7) If an owner or operator would prefer to select a different annual or semiannual date for submitting the periodic reports, then the dates may be changed in an Oregon Title V Operating Permit by mutual agreement between the owner or operator and the Department.

(8) For ~~large municipal waste combustor plants~~affected facilities installing additional controls, ~~in accordance with OAR 340-230-0360(2),~~ the owner or operator ~~shall~~must submit to the Department semi-annual progress reports on July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year. ~~The first report shall be submitted by July 30, 1997~~.

(9) The owner or operator of ~~a small or large municipal waste combustor plant~~an affected facility subject to OAR 340-230-0300 through 340-230-0~~360~~350 ~~shall~~must maintain records of and submit the following information with any Notice of Construction required by ~~OAR 340-230-0360(2)(c) and~~ OAR 340-210-0200 through 340-210-0220 or Notice of Approval required by OAR 340-218-0190:

(a) Intent to construct;

(b) Planned initial startup date;

(c) The types of fuels that the owner or operated plans to combust in the municipal waste combustor; and

(d) The municipal waste combustor capacity, municipal waste combustor plant capacity, and supporting capacity calculations prepared in accordance with OAR 340-230-0340(10).

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-1000

~~340-230-0360~~
~~Compliance Schedule~~

~~(1) Emissions standards and operating practices.~~

~~(a) For municipal waste combustor units located within a small municipal waste combustor plant, the emissions standards of OAR 340-230-0310 and OAR 340-230-0320 are applicable as of December 31, 1997.~~

~~(b) For municipal waste combustor units located within a large municipal waste combustor plant:~~

~~(A) The opacity, particulate matter, cadmium, lead, sulfur dioxide, hydrogen chloride, dioxin/furans, fugitive ash, carbon monoxide emissions standards, and the unit load level, particulate matter control device inlet temperature parameter standards specified in OAR 340-230-0310 through 340-230-0320 are applicable as of December 31, 1997; and~~

~~(B) the nitrogen oxides and mercury emissions standards and carbon injection rate (if applicable) parameter standards are applicable as of June 19, 1998 unless the compliance schedule specified below is implemented and followed to completion.~~

(2) Large municipal waste combustor plant compliance schedule for mercury and nitrogen oxides emissions standards and carbon injection rate (if applicable) parameter standards.
(a) By no later than December 31, 1996, the owner or operator shall obtain services of an architectural and engineering firm regarding the air pollution control device(s);
(b) By no later than March 31, 1997, the owner or operator shall obtain design drawings of the air pollution control device(s);
(c) By no later than June 30, 1997, the owner or operator shall submit a Notice of Construction application to the Department in accordance with OAR 340-210-0200 through 340-210-0220;
(d) By no later than December 31, 1997, the owner or operator shall order the air pollution control equipment;
(e) By no later than December 31, 1998, the owner or operator shall obtain the major components of the air pollution control device(s);
(f) By no later than March 31, 1999, the owner or operator shall initiate installation of the pollution control device(s);
(g) By no later than March 31, 2000, the owner or operator shall start up the pollution control device(s);
(h) By no later than June 19, 2000, the owner or operator shall conduct the initial performance test for mercury and nitrogen oxides emissions and carbon injection (if applicable) parameter standards.
(3) Operator training and certification.
(a) For small municipal waste combustor plants:
(A) All chief operators and shift supervisors shall obtain and maintain an ASME provisional certification or other State approved certification by no later than December 19, 1998.
(B) All chief operators and shift supervisors shall obtain and maintain a full ASME certification or other State approved certification or shall have scheduled a full certification exam with ASME or other State approved certification by December 19, 1998.
(C) After December 19, 1998, no owner or operator shall allow the operation of a municipal waste combustor unit unless one of the persons identified in 340-230-0330(3) and (4) is on duty and at the affected facility.
(D) By no later than June 19, 1998, all chief operators, shift supervisors, and control room operators shall have completed the EPA municipal waste combustor operator training course unless the person possesses and has maintained a full or provisional ASME training certification or other State approved certification.
(E) By no later than June 19, 1998, the owner operator shall have reviewed the site specific operating manual required by 340-230-0330(6) with all chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers. Following the initial review, the site specific operating manual shall be reviewed with all personnel specified above at least annually.
(F) By no later than June 19, 1998, the site specific operating manual shall be available in a readily accessible location for all persons required to undergo training.
(b) For large municipal waste combustor plants:
(A) All chief operators and shift supervisors shall obtain and maintain an ASME provisional certification by no later than June 19, 1998.
(B) All chief operators and shift supervisors shall obtain and maintain a full ASME certification or shall have scheduled a full certification exam with ASME by June 19, 1998.
(C) After June 19, 1998, no owner or operator shall allow the operation of a municipal waste combustor unit unless one of the persons identified in 340230-0330(3) and (4) is on duty and at the affected facility.

~~(D) By no later than June 19, 1998, all chief operators, shift supervisors, and control room operators shall have completed the EPA municipal waste combustor operator training course unless the person possesses and has maintained a full or provisional ASME training certification.~~

~~(E) By no later than June 19, 1998, the owner operator shall have reviewed the site specific operating manual required by 340-230-0330(6) with all chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers. Following the initial review, site specific operating manual shall be reviewed with all personnel specified above at least annually.~~

~~(F) By no later than June 19, 1998, the site specific operating manual shall be available in a readily accessible location for all persons required to undergo training.~~

~~(4) Continuous monitoring.~~

~~(a) For small and large municipal waste combustor plants, the owner or operator of an affected municipal waste combustor unit shall have installed and certified continuous monitoring systems for opacity, diluent gas (oxygen or carbon dioxide), sulfur dioxide, nitrogen oxides (large municipal waste combustors only), carbon monoxide, municipal waste combustor unit load level (if applicable), and particulate matter control device inlet temperature in accordance with OAR 340-230-0310 and 340-230-0330 by December 31, 1997.~~

~~(b) The owner or operator of a municipal waste combustor unit that installs carbon injection for control of mercury or dioxin/furan emissions shall submit documentation that the carbon injection monitoring system is installed and operational with the first mercury or dioxin/furans performance test report.~~

~~(5) Testing.~~

~~(a) For small municipal waste combustor plants, an initial performance test shall be conducted in accordance with the procedures in OAR 340-230-0340 for particulate matter, opacity, cadmium, lead, mercury, hydrogen chloride, dioxin/furan emissions, and fugitive ash and the results submitted to the Department by no later than June 19, 1998.~~

~~(b) For large municipal waste combustor plants, an initial performance test shall be conducted in accordance with the procedures in OAR 340-230-0340 and the results submitted to the Department by the dates specified below:~~

~~(A) For particulate matter, opacity, cadmium, lead, dioxin/furans, hydrogen chloride, and fugitive ash, the performance test shall be conducted by no later than June 19, 1998.~~

~~(B) For mercury and nitrogen oxides, the performance test shall be conducted by no later than June 19, 2000.~~

~~(6) Recordkeeping and reporting. The recordkeeping and reporting requirements of this rule are effective beginning December 31, 1996.~~

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-1010

Small Municipal Waste Combustion Units
340-230-0365

(1) Applicability:

(a) OAR 340-230-0365 through 340-230-0395 apply to each municipal waste combustion unit that has the capacity to combust at least 35 tons per day of municipal solid waste but

no more than 250 tons per day of municipal solid waste or refuse-derived fuel on which construction commenced on or before August 30, 1999.

(A) Class I units are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity greater than 250 tons per day of municipal solid waste.

(B) Class II units are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity less than or equal to 250 tons per day of municipal solid waste.

(b) MWC subject to OAR 340-230-0365 through 340-230-0395 are not subject to the incinerator rules in OAR 340-230-0100 through 340-230-0150.

(2) The following units in OAR 340-230-0365(2)(a) – (k) are exempt from the requirements in OAR 340-230-0370 through 340-230-0395:

(a) Small municipal waste combustion units that combust less than 11 tons per day are exempt if the following requirements are met

(A) The municipal waste combustion unit is subject to a federally enforceable permit limiting the amount of municipal solid waste combusted to less than 11 tons per day.

(B) The owner or operator of the unit notifies the Department of an exemption claim.

(C) The owner or operator of the unit provides a copy of the federally enforceable permit.

(D) The owner or operator of the unit keeps daily records of the amount of municipal solid waste combusted.

(b) Small power production units are exempt if four requirements are met:

(A) The unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. § 796(17)(C)).

(B) The unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity.

(C) The owner or operator of the unit notifies the Department of an exemption claim.

(D) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(c) Cogeneration units are exempt if four requirements are met:

(A) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. § 796(18)(B)).

(B) The unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(C) The owner or operator of the unit notifies the Department of an exemption claim.

(D) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(d) Municipal waste combustion units that combust only tires are exempt if three requirements are met:

(A) The municipal waste combustion unit combusts a single-item waste stream of tires and no other municipal waste (the unit can co- fire coal, fuel oil, natural gas, or other nonmunicipal solid waste).

(B) The owner or operator of the unit notifies the Department of an exemption claim.

(C) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(e) Hazardous waste combustion units are exempt if the units have received a permit under section 3005 of the Solid Waste Disposal Act (42 U.S.C. § 6925).

(f) Materials recovery units are exempt if the units combust waste mainly to recover metals. Primary and secondary smelters may qualify for the exemption.

(g) Co-fired units are exempt if four requirements are met:

(A) The unit has a federally enforceable permit limiting municipal solid waste combustion to 30 percent of the total fuel input by weight.
(B) The owner or operator of the unit notifies the Department of an exemption claim.
(C) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.
(D) The owner or operator records the weights, each quarter, of municipal solid waste and of all other fuels combusted.

(h) Plastics/rubber recycling units are exempt if four requirements are met:
(B) The pyrolysis/combustion unit is an integrated part of a plastics/rubber recycling unit.
(C) The owner or operator of the unit records the weight, each quarter, of plastics, rubber, and rubber tires processed.
(D) The owner or operator of the unit records the weight, each quarter, of feed stocks produced and marketed from chemical plants and petroleum refineries.
(E) The owner or operator of the unit keeps the name and address of the purchaser of the feed stocks.

(i) Units that combust fuels made from products of plastics/rubber recycling plants are exempt if two requirements are met:
(A) The unit combusts gasoline, diesel fuel, jet fuel, fuel oils, residual oil, refinery gas, petroleum coke, liquified petroleum gas, propane, or butane produced by chemical plants or petroleum refineries that use feed stocks produced by plastics/rubber recycling units.
(B) The unit does not combust any other municipal solid waste.

(j) Cement kilns that combust municipal solid waste are exempt.

(3) Reducing small municipal waste combustion unit capacity. An owner or operator of an affected municipal waste combustion unit may choose to reduce, by the final compliance date, the maximum combustion capacity of the unit to less than 35 tons per day of municipal solid waste. A final control plan must be submitted with the notifications of achievement of increments of progress as specified in OAR 340-230-0370(1)(a). The final control plan must include a description of the physical changes that will be made to accomplish the reduction and calculations of the current maximum combustion capacity and the planned maximum combustion capacity after the reduction, using the equations specified below. A permit restriction or a change in the method of operation does not qualify as a reduction in capacity.

(a) For a municipal waste combustion unit that can operate continuously for 24-hour periods, calculate the municipal waste combustion unit capacity based on 24 hours of operation at the maximum charge rate. To determine the maximum charge rate, use one of two methods.
(i) If the municipal waste combustion unit combusts refuse-derived fuel, use a heating value of 12,800 kilojoules per kilogram (5,500 British thermal units per pound).
(ii)If the municipal waste combustion unit combusts municipal solid waste, use a heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound).

(b) For municipal waste combustion units with a design not based on heat input capacity, use the maximum designed charging rate.

(c) For a batch municipal waste combustion unit calculate the capacity of a batch municipal waste combustion unit as the maximum design amount of municipal solid waste charged per batch multiplied by the maximum number of batches processed in 24 hours. Calculate the maximum number of batches by dividing 24 by the number of hours needed to process one batch. Retain fractional batches in the calculation. For example, if one batch requires 16 hours, the municipal waste combustion unit can combust 24/16, or 1.5 batches, in 24 hours.

Increments of Progress

(1) Increments of Progress
  (a) For Class I units, if the owner or operator plans to achieve compliance more than 1 year following December 31, 2003 and a permit modification is not required, or more than 1 year following the date of issuance of a revised construction or operation permit if a permit modification is required, five increments of progress must be met as follows:
    (A) Submit a final control plan.
    (B) Submit a notification of retrofit contract award
    (C) Initiate onsite construction
    (D) Complete onsite construction
    (E) Achieve final compliance
  (b) For Class II units, if the owner or operator plans to achieve compliance more than 1 year following December 31, 2003 and a permit modification is not required, or more than 1 year following the date of issuance of a revised construction or operation permit is a permit modification is required, the following two increments of progress must be met:
    (A) Submit a final control plan
    (B) Achieve final compliance
  (c) Deadlines
    (A) Submission of a final control plan to the Department by no later than December 31, 2003
    (B) For Class I units only, award contracts must be submitted to the Department by no later than June 6, 2004
    (C) For Class I units only, onsite construction must begin by December 6, 2004
    (D) For Class I units only, onsite construction must be completed by June 6, 2005
    (E) Final compliance must be completed by December 6, 2005

(2) Notification
  (a) The notification of achievement of increment of progress must include: notification that the increment of progress has been achieved and any items required to be submitted with the increment of progress. The notification must be signed by the owner or operator of the municipal waste combustion unit.
  (b) Notifications of achievement of increments of progress must be postmarked no later than 10 days after the compliance date for the increment.

(3) Failure to meet deadlines. If the owner or operator fails to meet an increment of progress, a notification to the Department must be submitted no later than 10 days after the compliance date for the increment. The notification must explain to the Department why the increment was not met and the plan for meeting the increment as expeditiously as possible. Reports must be submitted each subsequent month until the increment of progress is met.

(4) Control Plan.
  (a) Submit the final control plan, including a description of the devices for air pollution control and process changes that will be used to comply with the emission limits and other requirements of this division.
  (b) A copy of the final control plan must be maintained onsite.

(5) Awarding Contracts. A signed copy of the contracts awarded to initiate onsite construction, initiate onsite installation of emission control equipment, and incorporated process changes must be submitted to the Department. Submit the copy of the contracts with the notification that the increment of progress has been achieved.

(6) Onsite Construction
  (a) Initiate onsite construction and installation of emission control equipment and initiate the process changes outlined in the final control plan.
  (b) Complete onsite construction and installation of emission control equipment and complete process changes outlined in the final control plan.

(7) Final compliance
  (a) Complete all process changes and complete retrofit construction as specified in the final control plan.
  (b) Connect the air pollution control equipment with the municipal waste combustion unit identified in the final control plan and complete process changes to the municipal waste combustion unit so that if the affected municipal waste combustion unit is brought online, all necessary process changes and air pollution control equipment are operating as designed.
(8) Closure of the combustion unit
  (a) If the municipal waste combustion unit is closed but must reopen before the final compliance date, the owner or operator must meet the increments of progress specified in OAR 340-230-0370(1). Additionally, the owner or operator must complete emission control retrofit and meet the emission limits and good combustion practices on the date the municipal waste combustion unit restarts operation.
  (b) If the municipal waste combustion unit must be closed rather than comply, the owner or operator must submit a closure notification, including the date of closure, to the Department by the date the final control plan is due. If the closure date is later than 1 year after the effective date of State plan approval, the owner or operator must enter into a legally binding closure agreement with the Department by the date the final control plan is due. The agreement must specify the date by which operation must cease.

340-230-0373
Operator Training

(1) Who must complete the operator training course
  (a) Chief facility operators, shift supervisors, and control room operators must complete the EPA or State-approved operator training course. If a chief facility operator, shift supervisor, and control room operator have obtained full certification from the American Society of Mechanical Engineers by June 19, 2004, the training requirements do not apply.
  (b) The employees must complete the operator training by December 19, 2004.
  (c) The owner or operator may ask the Department to waive the requirement contained in subsection (a) for chief facility operators, shift supervisors, and control room operators who have obtained provisional certification from the American Society of Mechanical Engineers by June 19, 2004.
(2) Who must complete the plant-specific training course
  All employees with responsibilities that affect how a municipal waste combustion unit operates must complete the plant-specific training course. Chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane or load handlers must be included.
(3) Plant Specific Training
  (a) For training at a particular plant, develop a specific operating manual for that plant by June 19, 2004.
  (b) Establish a program to review the plant-specific operating manual with people whose responsibilities affect the operation of the municipal waste combustion unit. Complete the review by June 19, 2004.
  (c) Update the manual annually.
  (d) Review the manual with staff annually.
(4) The following information must be included in the plant-specific operating manual
  (a) A summary of the applicable standards under OAR 340-230-0365 through 340-230-0395;
  (b) A description of basic combustion theory applicable to a municipal waste combustion unit;

(c) Procedures for receiving, handling, and feeding municipal solid waste;
(d) Procedures to follow during periods of municipal waste combustion unit startup, shutdown, and malfunction procedures;
(e) Procedures for maintaining proper combustion air supply levels;
(f) Procedures for operating the municipal waste combustor unit within the standards established under OAR 340-230-0365 through 340-230-0395;
(g) Procedures for responding to periodic upset or off-specification conditions;
(h) Procedures for minimizing particulate matter carryover;
(i) Procedures for handling ash;
(j) Procedures for monitoring municipal waste combustor unit emissions; and
(k) Reporting and recordkeeping procedures.

(5) Where the plant specific training manual must be kept.
The operating manual must be kept in an easily accessible location at the plant. It must be available for review or inspection by all employees who must review it and by the Department.

340-230-0375
Operator Certification

(1) Types of operator certification
(a) Each chief facility operator and shift supervisor must obtain and keep a current provisional operator certification from the American Society of Mechanical Engineers or a current provisional operator certification from the State certification program.
(b) Each chief facility operator and shift supervisor must obtain a provisional certification by December 19, 2004.
(c) Each chief facility operator and shift supervisor must take one of three actions:
(A) Obtain a full certification from the American Society of Mechanical Engineers or a State certification program in the State
(B) Schedule a full certification exam with the American Society of Mechanical Engineers, or
(C) Schedule a full certification exam with the State certification program.
(d) The chief facility operator and shift supervisor must obtain the full certification or be scheduled to take the certification exam by June 19, 2004 for Class I units and by December 19, 2004 for Class II units.

(2) Who is allowed to operate the municipal waste combustion unit.
After the required date for full or provisional certification, no person may operate the municipal waste combustion unit unless one of the following four employees is on duty: a fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam.

(3) Who can temporarily operate the unit.
(a) If the certified chief facility operator and certified shift supervisor both are unavailable, a provisionally certified control room operator at the municipal waste combustion unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, one of the following criteria must be met:
(A) When the certified chief facility operator and certified shift supervisor are both offsite for 12 hours or less and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Department.
(B) When the certified chief facility operator and certified shift supervisor are offsite for more than 12 hours, but for 2 weeks or less, and no other certified operator is onsite,

the provisionally certified control room operator may perform those duties without notice to, or approval by, the Department. However, the owner or operator must record the periods when the certified chief facility operator and certified shift supervisor are offsite and include the information in the annual report as specified under OAR 340-230-0395(4)(b)(L).

(C) When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without prior notice to, or approval by, the Department. However, the owner or operator must take two subsequent actions:

(i) Notify the Department in writing. In the notice, state what caused the absence and what is being done to ensure that a certified chief facility operator or certified shift supervisor is onsite.

(ii) Submit a status report and corrective action summary to the Department every 4 weeks following the initial notification. If the Department notifies the owner or operator that the status report or corrective action summary is disapproved, the municipal waste combustion unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Department withdraws the disapproval, municipal waste combustion unit operation may continue.

340-230-0377

Operating Requirements

(1) No person may operate the municipal waste combustor unit at loads greater than 110 percent of the maximum demonstrated load of the municipal waste combustion unit (4-hour block average).

(2) No person may operate the municipal waste combustion unit so that the temperature at the inlet of the particulate matter control device exceeds 17^{O} C above the maximum demonstrated temperature of the particulate matter control device (4-hour block average).

(3) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, an 8-hour block average carbon feed rate must be maintained at or above the highest average level established during the most recent dioxins/furans or mercury test.

(4) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the total carbon usage for each calendar quarter must be evaluated. The total amount of carbon purchased and delivered to the municipal waste combustion plant must be at or above the required quarterly usage of carbon. The owner or operator may choose to evaluate required quarterly carbon usage on a municipal waste combustion unit basis for each individual municipal waste combustion unit at the plant. The calculation of the required quarterly usage of carbon must be made using either equation 4 or 5 for plant basis or unit basis.

(a) Equation 4: Plant basis

$$C=\sum_{i=1}^{n} f_i * h_i$$

Where C = required quarterly carbon usage for the plant in kilograms (or pounds);
f_i = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate);
h_i = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours);
n = number of municipal waste combustion units, i, located at the plant.

(b) Equation 5: Unit basis C = f*h

Where C = required quarterly carbon usage for the unit in kilograms (or pounds);
f = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate);
h = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours);

(5) The municipal waste combustion unit is exempt from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate during any of the following five situations:
  (a) During the annual tests for dioxins/furans.
  (b) During the annual mercury tests (for carbon feed rate requirements only).
  (c) During the 2 weeks preceding the annual tests for dioxins/furans.
  (d) During the 2 weeks preceding the annual mercury tests (for carbon feed rate requirements only).
  (e) Whenever the Department permits any of the following five activities:
    (A) Evaluate system performance
    (B) Test new technology or control technologies
    (C) Perform diagnostic testing
    (D) Perform other activities to improve the performance of the municipal waste combustion unit
    (E) Perform other activities to advance the state of the art for emission controls for the municipal waste combustion unit.

(6) Exception for periods of startup, shutdown, and malfunction.
  (a) The operating requirements contained in this rule apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.
  (b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

340-230-0380
Emission Limits

No person may cause, allow, or permit the operation of any affected municipal waste combustion unit in a manner that violates the following emission limits and requirements.

(1) Class I units
  (a) Organics:
    (A) Dioxins/Furans (total mass basis). The dioxins/furans emissions must not exceed 30 nanograms per dry standards cubic meter corrected to 7 percent oxygen for municipal waste combustion units that do not employ an electrostatic precipitator-based emission control system or must not exceed 60 nanograms per dry standard cubic meter corrected to 7 percent oxygen for municipal waste combustion units that employ an electrostatic precipitator-based emission control system. A 3-run average (minimum run is 4 hours) must be used. Compliance must be determined by a stack test.
  (b) Metals.
    (A) Cadmium. The cadmium emissions must not exceed 0.040 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.
    (B) Lead. The lead emissions must not exceed 0.490 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.
    (C) Mercury. The mercury emissions must not exceed 0.080 milligrams per dry standard cubic meter or an 85 percent reduction of potential mercury emissions, corrected to 7

percent oxygen and using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(D) Opacity. The opacity emissions must not exceed 10 percent opacity, using thirty 6-minute averages. Compliance must be determined by a stack test.

(E) Particulate Matter. The particulate matter emissions must not exceed 27 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(c) Acid Gases.

(A) Hydrogen Chloride. The hydrogen chloride emissions must not exceed 31 parts per million by dry volume or 95 percent reduction of potential hydrogen chloride emissions, corrected to 7 percent oxygen, using a 3-run average (minimum run duration is 1 hour). Compliance must be determined by a stack test.

(B) Sulfur Dioxide. The sulfur dioxide emissions must not exceed 31 parts per million by dry volume or 75 percent reduction of potential sulfur dioxide emissions, corrected to 7 percent oxygen, using 24-hour daily block geometric average concentration percent reduction. Compliance must be determined by a continuous emission monitoring system.

(d) Other.

(A) Fugitive Ash. No owner or operator may cause or allow visible emissions in excess of 5 percent of the hourly observation period, using three 1-hour observation periods. Compliance must be determined by visible emission test.

(B) Nitrogen Oxide. The nitrogen oxide emissions must not exceed 380 parts per million by dry volume corrected to 7 percent oxygen, with a 24-hour daily block arithmetic average concentration. Compliance is determined by continuous emission monitoring systems.

(C) Carbon Monoxide. The carbon monoxide emissions must not exceed 50 parts per million by dry volume corrected to 7 percent oxygen, with a 4-hour averaging time. Compliance must be determined by continuous emission monitoring system.

(2) Class II units.

(a) Organics:

Dioxins/Furans (total mass basis). The dioxins/furans emissions must not exceed 125 nanograms per dry standards cubic meter corrected to 7 percent oxygen. A 3-run average (minimum run is 4 hours) must be used. Compliance must be determined by a stack test.

(b) Metals.

(A) Cadmium. The cadmium emissions must not exceed 0.10 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(B) Lead. The lead emissions must not exceed 1.6 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(C) Mercury. The mercury emissions must not exceed 0.080 milligrams per dry standard cubic meter or an 85 percent reduction of potential mercury emissions, corrected to 7 percent oxygen and using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(D) Opacity. The opacity emissions must not exceed 10 percent opacity, using thirty 6-minute averages. Compliance must be determined by a stack test.

(E) Particulate Matter. The particulate matter emissions must not exceed 70 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(c) Acid Gases.

(A) Hydrogen Chloride. The hydrogen chloride emissions must not exceed 250 parts per million by volume or 50 percent reduction of potential hydrogen chloride emissions, corrected to 7 percent oxygen, using a 3-run average (minimum run duration is 1 hour). Compliance must be determined by a stack test.

(B) Sulfur Dioxide. The sulfur dioxide emissions must not exceed 77 parts per million by dry volume or 50 percent reduction of potential sulfur dioxide emissions, corrected to 7 percent oxygen, using 24-hour daily block geometric average concentration percent reduction. Compliance must be determined by a continuous emission monitoring system.

(d) Other.

(A) Fugitive Ash. No owner or operator may cause or allow visible emissions in excess of 5 percent of the hourly observation period, using three 1-hour observation periods. Compliance must be determined by visible emission test.

(B) Carbon Monoxide. The carbon monoxide emissions must not exceed 50 parts per million by dry volume corrected to 7 percent oxygen, with a 4-hour averaging time. Compliance must be determined by continuous emission monitoring system.

(3) Class I unit compliance dates. If the Class I municipal waste combustion unit began construction, reconstruction, or modification after June 26, 1987, then the owner or operator must comply with the applicable dioxins/furans and mercury emission limits specified in OAR 340-230-0380(1) by December 31, 2003. Final compliance with the dioxins/furans limits must be achieved no later than December 6, 2005, even if the date one year after the issuance of a revised construction or operation permit is later than December 6, 2005.

(4) Startup, shutdown, and malfunction.

(a) The emission limits apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.

(b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

(c) A maximum of 3 hours of test data may be dismissed from compliance calculations during periods of startup, shutdown, or malfunction.

(d) During startup, shutdown, or malfunction periods longer than 3 hours, emissions data cannot be discarded from compliance calculations and all provisions under 40 CFR Part 60.11(d) apply.

340-230-0383

Continuous Emission Monitoring

(1) Types of monitoring. To continuously monitor emissions, the owner or operator must perform the following four tasks:

(a) Install continuous emission monitoring systems for certain gaseous pollutants.

(b) Make sure the continuous emission monitoring systems are operating correctly.

(c) Make sure the minimum amount of monitoring data is obtained.

(d) Install a continuous opacity monitoring system.

(2) What continuous emission monitoring systems (CEMS) must be installed and its use.

(a) The owner or operator must install, calibrate, maintain, and operate continuous emission monitoring systems for oxygen or carbon dioxide, sulfur dioxide, and carbon monoxide. If it is a Class I municipal waste combustion unit, also install, calibrate, maintain, and operate a continuous emission monitoring system for nitrogen oxides. Install the continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and oxygen or carbon dioxide at the outlet of the air pollution control device.

(b) The owner or operator must install, evaluate, and operate each continuous emission monitoring system in accordance with 40 CFR Part 60.13.

(c) The owner or operator must monitor the oxygen or carbon dioxide concentration at each location where sulfur dioxide and carbon monoxide is monitored. Also, if there is a Class I municipal waste combustion unit, the owner or operator must monitor the oxygen or carbon dioxide concentration at the location where nitrogen oxides is monitored.

(d) The owner or operator may choose to monitor carbon dioxide instead of oxygen as a diluent gas. If the owner or operator chooses to monitor carbon dioxide, then an oxygen monitor is not required and the requirements in OAR 340-230-0383(6) must be met.

(e) If the owner or operator chooses to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, continuous emission monitoring systems for sulfur dioxide and oxygen or carbon dioxide must be installed at the inlet of the air pollution control device.

(f) If the owner or operator prefers to use an alternative sulfur dioxide monitoring method, such as parametric monitoring, or cannot monitor emissions at the inlet of the air pollution control device to determine percent reduction, the owner or operator may apply to the Department for approval to use an alternative monitoring method under 40 CFR 60.13(i).

(g) Use of data from continuous emission monitoring systems. The owner or operator must use data from the continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and carbon monoxide to demonstrate continuous compliance with the applicable emission limits specified in OAR 340-230-0380(1) and (2). To demonstrate compliance for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, see OAR 340-230-0385(2).

(3) Continuous Emissions Monitoring Systems QA/QC. The owner or operator must:

(a) Conduct initial, daily, quarterly, and annual evaluations of the continuous emission monitoring systems that measure oxygen or carbon dioxide, sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide.

(b) Complete the initial evaluation of the continuous emission monitoring systems within 180 days after the final compliance date.

(c) For initial and annual evaluations, collect data concurrently (or within 30 to 60 minutes) using the oxygen or carbon dioxide continuous emission monitoring system, the sulfur dioxide, nitrogen oxides, or carbon monoxide continuous emission monitoring systems, as appropriate, and the appropriate test methods specified.

(A) For nitrogen oxides (Class I units only) use Method 7, 7A, 7B, 7C, 7D, or 7E in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(B) For sulfur dioxide use Method 6 or 6C in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(C) For carbon monoxide use Method 10, 10A, or 10B in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(d) Collect the data during each initial and annual evaluation of the continuous emission monitoring systems following the applicable performance specifications in appendix B 40 CFR Part 60. Use the performance specifications that apply to each continuous emission monitoring system.

(A) Opacity. Use a span value of 100 percent opacity, and Performance Specification 1 in Appendix B of 40 CFR Part 60. Use Method 9 in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(B) Nitrogen Oxides (Class I units only). Use a span value at the control device outlet: 125 percent of the maximum expected hourly potential nitrogen oxides emissions of

the municipal waste combustion unit and Performance Specification 2 in Appendix B of 40 CFR Part 60. Use Method 7E in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(C) Sulfur Dioxide. Use a span value at the inlet to control device: 125 percent of the maximum expected hourly potential sulfur dioxide emissions of the municipal waste combustion unit. At the control device outlet: 50 percent of the maximum expected hourly potential sulfur dioxide emissions of the municipal waste combustion unit. Use Performance Specification 2 in Appendix B of 40 CFR Part 60. Use Method 6C in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(D) Carbon Monoxide. Use a span value of 125 percent of the maximum expected hourly potential carbon monoxide emissions of the municipal waste combustion unit and Performance Specification 4A in Appendix B of 40 CFR Part 60. Use Method 10 with alternative interference trap in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(E) Oxygen or Carbon Dioxide. Use a span value of 25 percent oxygen or 25 percent carbon dioxide with Performance Specification 3 in Appendix B of 40 CFR Part 60. Use Method 3A or 3B in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(e) Follow the quality assurance procedures in Procedure 1 of Appendix F 40 CFR Part 60 for each continuous emission monitoring system. The procedures include daily calibration drift and quarterly accuracy determinations.

(4) Exemptions. The accuracy tests for the sulfur dioxide continuous emission monitoring system requires the oxygen (or carbon dioxide) continuous emission monitoring system to be evaluated. Therefore, the oxygen (or carbon dioxide) continuous emission monitoring system is exempt from two requirements:

(a) Section 2.3 of Performance Specification 3 in Appendix B of 40 CFR Part 60 (relative accuracy requirement) and

(b) Section 5.1.1 of Appendix F of 40 CFR Part 60 (relative accuracy test audit).

(5) CEMS evaluation schedule. The owner or operator must:

(a) Conduct annual evaluations of the continuous emission monitoring systems no more than 13 months after the previous evaluation was conducted and

(b) Evaluate the continuous emission monitoring systems daily and quarterly as specified in Appendix F of 40 CFR Part 60.

(6) Using carbon dioxide instead of oxygen as a diluent gas. The owner or operator must establish the relationship between oxygen and carbon dioxide during the initial evaluation of the continuous emission monitoring systems. The owner or operator may reestablish the relationship during annual evaluations. To establish the relationship the owner or operator must use the following three procedures:

(a) EPA Reference Method 3A or 3B in appendix A of 40 CFR Part 60 to determine oxygen concentration at the location of the carbon dioxide monitor.

(b) Conduct at least three test runs for oxygen. Make sure each test run represents a 1-hour average and that sampling continues for at least 30 minutes in each hour.

(c) The fuel-factor equation in EPA Reference Method 3B in appendix A of 40 CFR Part 60 to determine the relationship between oxygen and carbon dioxide.

(7) The owner or operator must obtain the minimum data requirements as follows:

(a) Where continuous emission monitoring systems are required, obtain 1-hour arithmetic averages. Make sure the averages for sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide are in parts per million by dry volume at 7 percent oxygen (or the equivalent carbon dioxide level). Use the 1-hour averages of oxygen (or carbon dioxide) data from the continuous emission monitoring

system to determine the actual oxygen (or carbon dioxide) level and to calculate emissions at 7 percent oxygen (or the equivalent carbon dioxide level).

(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average. 40 CFR 60.13(e)(2) requires the continuous emission monitoring systems to complete at least one cycle of operation (sampling, analyzing, and data recording) for each 15- minute period.

(c) Obtain valid 1-hour averages for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If the minimum data required in (a) through (c) of this section is not obtained, the owner or operator is in violation of the data collection requirement regardless of the emission level monitored and must notify the Department according to OAR 340-230-0395(4)(b)(E).

(e) If the owner or operator does not obtain the minimum data required in (a) through (c) of this section, all valid data from the continuous emission monitoring systems must be used in calculating emission concentrations and percent reductions in accordance with OAR 340-230-0383(8).

(8) Converting 1-hour arithmetic averages into averaging times. The owner or operator must:

(a) Use equation 1 to calculate emission levels at 7 percent oxygen (or an equivalent carbon dioxide basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions. [Equation 1: $C_{7\%}=C_{unc}*(13.9)*(1/(20.9-CO_2))$, where $C_{7\%}$ = concentration corrected to 7 percent oxygen; C_{unc} = uncorrected pollutant concentration; and CO_2 = concentration of oxygen (percent)].

(b) Use EPA Reference Method 19 in appendix A-7 of 40 CFR Part 60, to calculate the daily geometric average concentrations of sulfur dioxide emissions. If monitoring the percent reduction of sulfur dioxide, use EPA Reference Method 19 in appendix A-7 of 40 CFR Part 60, to determine the daily geometric average percent reduction of potential sulfur dioxide emissions.

(c) If operating a Class I municipal waste combustion unit, use EPA Reference Method 19 in appendix A-7 of 40 CFR Part 60, to calculate the daily arithmetic average for concentrations of nitrogen oxides.

(d) Use EPA Reference Method 19 in appendix A-7 of 40 CFR Part 60, to calculate the 4-hour or 24-hour daily block averages (as applicable) for concentrations of carbon monoxide.

(9) Continuous opacity monitoring system. If applicable, the owner or operator must:

(a) Install, calibrate, maintain, and operate a continuous opacity monitoring system.

(b) Install, evaluate, and operate each continuous opacity monitoring system according to 40 CFR 60.13.

(c) Complete an initial evaluation of the continuous opacity monitoring system according to Performance Specification 1 in appendix B of 40 CFR Part 60. Complete the evaluation by 180 days after the final compliance date.

(d) Complete each annual evaluation of the continuous opacity monitoring system no more than 13 months after the previous evaluation.

(e) Use tests conducted according to EPA Reference Method 9 in appendix A of 40 CFR Part 60, to determine compliance with the opacity limit in OAR 340 230-0380(1) and (2). The data obtained from the continuous opacity monitoring system are not used for determining compliance with the opacity limit.

(f) Use the required span values and applicable performance specifications in OAR 340-230-0383(10).

(10) Missing data/alternate methods

(a) Dioxins/Furans. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 23 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Also, the minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load.

(b) Cadmium. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(c) Lead. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(d) Mercury. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(e) Opacity. The owner or operator must use Method 9 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 9 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. Use Method 9 to determine compliance with opacity limits. 3-hour observation period (thirty 6-minute averages).

(f) Particulate Matter. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 5 or 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The minimum sample volume must be 1.0 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 +14 °C. The minimum sampling time is 1 hour.

(g) Hydrogen Chloride. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 26 or 26A in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in appendix A of 40 CFR Part 60. Test runs must be at least 1 hour long while the municipal waste combustion unit is operating at full load.

(h) Fugitive Ash. The owner or operator must use Method 22 (visible emissions) of Appendix A of 40 CFR Part 60 to measure pollutant concentrations. The three 1-hour observation period must include periods when the facility transfers fugitive ash from the municipal waste combustion unit to the area where the fugitive ash is stored or loaded into containers or trucks.

340-230-0385

Stack Testing

(1) Test Requirements. The owner or operator must conduct initial and annual stack tests to measure the emission levels of dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.

(2) Use of stack test data. The owner or operator must use results of stack tests for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the applicable emission limits in OAR 340-230-0380(1) and (2). To demonstrate compliance for carbon monoxide, nitrogen oxides, and sulfur dioxide, see OAR 340-230-0383(2)(g).

(3) Schedule. The owner or operator must:

(a) Conduct initial stack tests for the pollutants listed in (1) of this rule by June 19, 2004.

(b) Conduct annual stack tests for the same pollutants after the initial stack test. Conduct each annual stack test no later than 13 months after the previous stack test, and

(c) Conduct each annual stack test no later than 13 months after the previous stack test.

(4) Test methods. The owner or operator must:

(a) Follow OAR 340-230-0383(10) to establish the sampling location and to determine pollutant concentrations, number of traverse points, individual test methods, and other specific testing requirements for the different pollutants.

(b) Make sure that stack tests for all the pollutants consist of at least three test runs, as specified in 40 CFR 60.8. Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the applicable emission limits in OAR 340-230-0380(1) and (2).

(c) Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the applicable emission limits in OAR 340-230-0380(1) and (2).

(d) Obtain an oxygen (or carbon dioxide) measurement at the same time as the pollutant measurements to determine diluent gas levels, as specified in OAR 340-230-0383(2).

(e) Use the equations in OAR 340-230-0383(8)(a) to calculate emission levels at 7 percent oxygen (or an equivalent carbon dioxide basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions. See the individual test methods in OAR 340-230-0383(3)(c) for other required equations.

(f) The owner or operator may apply to the Department for approval under 40 CFR Part 60.8(b) to use a reference method with minor changes in methodology, use an equivalent method, use an alternative method the results of which the Department has determined are adequate for demonstrating compliance, waive the requirement for a performance test because the owner or operator has demonstrated by other means that they are in compliance, or use a shorter sampling time or smaller sampling volume.

(5) Reduced testing frequency

(a) The owner or operator may test less often if it owns or operates a Class II municipal waste combustion unit and if all stack tests for a given pollutant over 3 consecutive years show that it complies with the emission limit. In that case, the owner or operator is not required to conduct a stack test for that pollutant for the next 2 years. However, another stack test must be conducted within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, stack tests must be performed every 3rd year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, annual stack tests for that pollutant must be conducted until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant. The provision applies to all pollutants subject to stack testing requirements: dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.

(b) The owner or operator may test less often for dioxins/furans emissions, as described in paragraphs (A) through (C), if it owns or operates a municipal waste combustion plant that meets two conditions. First, the owner or operator must have multiple municipal waste combustion units onsite that are subject to this rule. Second, all those municipal waste combustion units have demonstrated levels of dioxins/furans emissions less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, for 2 consecutive years. In that case, the owner or operator may choose to conduct annual stack tests on only one municipal waste combustion unit per year at the plant. This provision applies only to stack testing for dioxins/furans emissions.

(A) The owner or operator must conduct the stack test no more than 13 months following a stack test on any municipal waste combustion unit at the plant. Each year, the owner or operator must test a different municipal waste combustion unit subject to this rule and test all municipal waste combustion units subject to this rule in a sequence determined by the owner or operator. Once a testing sequence is determined, it must not be changed without the Department's approval.

(B) If each annual stack test shows levels of dioxins/furans emissions less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, the owner or operator may continue stack tests on only one municipal waste combustion unit per year.

(C) If any annual stack test indicates levels of dioxins/furans emissions greater than 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, the owner or operator must conduct subsequent annual stack tests on all municipal waste combustion units subject to this subpart at the plant. The owner or operator may return to testing one municipal waste combustion unit per year if the owner or operator can demonstrate dioxins/furans emissions levels less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, for all municipal waste combustion units at the plant subject to this subpart for 2 consecutive years.

(6) Alternative schedules. The owner or operator may not deviate from the 13-month testing schedules specified in OAR 340-230-0385(3)(b) and OAR 340-230-0385(5)(b)(A) unless the owner or operator applies to the Department for an alternative schedule, and the Department approves the request for alternate scheduling before the date on which the owner or operator would otherwise have been required to conduct the next stack test.

340-230-0387

Other Monitoring Requirements

(1) Operating parameters. The owner or operator must monitor the following operating parameters:

(a) Load level of each municipal waste combustion unit.

(b) Temperature of flue gases at the inlet of the particulate matter air pollution control device.

(c) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.

(2) Unit load

(a) If the municipal waste combustion unit generates steam, the owner or operator must install, calibrate, maintain, and operate a steam flowmeter or a feed water flowmeter and meet five requirements:

(A) Continuously measure and record the measurements of steam (or feed water) in kilograms (or pounds) per hour.
(B) Calculate thesteam (or feed water) flow in 4-hour block averages.
(C) Calculate the steam (or feed water) flow rate using the method in "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1--1964 (R1991)," section 4.
(D) Design, construct, install, calibrate, and use nozzles or orifices for flow rate measurements, using the recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters," 6th Edition (1971), chapter 4.
(E) Before each dioxins/furans stack test, or at least once a year, calibrate all signal conversion elements associated with steam (or feed water) flow measurements according to the manufacturer instructions.

(b) If the municipal waste combustion units do not generate steam, or, if the municipal waste combustion units have shared steam systems and steam load cannot be estimated per unit, the owner or operator must determine, to the Department's satisfaction, one or more operating parameters that can be used to continuously estimate load level (for example, the feed rate of municipal solid waste or refuse-derived fuel). The owner or operator must continuously monitor the selected parameters.

(3) Pollution control device inlet temperature. The owner or operator must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device.

(4) Carbon injection rate.
If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the owner or operator must meet three requirements:
(a) Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed).
(b) During each dioxins/furans and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level.
(c) Continuously monitor the selected operating parameter during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average carbon feed rate in kilograms (or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, the owner or operator must do two things: (1) Exclude hours when the municipal waste combustion unit is not operating. (2) Include hours when the municipal waste combustion unit is operating but the carbon feed system is not working correctly.

(5) Minimum data. The owner or operator must obtain the minimum data as prescribed in subsections (a)-(c) below.
(a) Where continuous parameter monitoring systems are used, obtain 1-hour arithmetic averages for the following three parameters:
(A) Load level of the municipal waste combustion unit.
(B) Temperature of the flue gases at the inlet of the particulate matter control device, and
(C) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.
(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.

(c) Obtain valid 1-hour averages for at least 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.
(d) If the owner or operator does not obtain the minimum data required in subsections (a) through (c), the owner or operator is in violation of the data collection requirement and must notify the Department according to OAR 340-230-0395(4)(b)(E)

340-230-0390
Recordkeeping

(1) The owner or operator must keep records of the following:
(a) Operator training and certification.
(b) Stack tests.
(c) Continuously monitored pollutants and parameters.
(d) Carbon feed rate.
(2) Records retention. The owner or operator must retain the required records as follows:
(a) All records must be onsite in paper copy or electronic format unless the Department approves another format.
(b) Retain all records on each municipal waste combustion unit for at least 5 years.
(c) Make all records available for submittal to the Department, or for onsite review by an inspector.
(3) Operator training/certification records. The owner or operator must retain the following records:
(a) Records of provisional certifications. Include three items:
(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.
(B) Dates of the initial provisional certifications.
(C) Documentation showing current provisional certifications.
(b) Records of full certifications. Include three items:
(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.
(B) Dates of initial and renewal full certifications.
(C) Documentation showing current full certifications.
(c) Records showing completion of the operator training course. Include three items:
(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State municipal waste combustion operator training course.
(B) Dates of completion of the operator training course.
(C) Documentation showing completion of operator training course.
(d) Records of reviews for plant-specific operating manuals. Include three items:
(A) Names of persons who have reviewed the operating manual.
(B) Date of the initial review.
(C) Dates of subsequent annual reviews.
(e) Records of when a certified operator is temporarily offsite. Include two main items:
(A) If the certified chief facility operator and certified shift supervisor are offsite for more than 12 hours, but for 2 weeks or less, and no other certified operator is onsite, record the dates that the certified chief facility operator and certified shift supervisor were offsite.

(B) When all certified chief facility operators and certified shift supervisors are offsite for more than 2 weeks and no other certified operator is onsite, keep records of four items:

(i) The notice that all certified persons are offsite.

(ii) The conditions that cause those people to be offsite.

(iii) The corrective actions being taken to ensure a certified chief facility operator or certified shift supervisor is onsite.

(iv) Copies of the written reports submitted every 4 weeks that summarize the actions taken to ensure that a certified chief facility operator or certified shift supervisor was onsite.

(v) Records of calendar dates. Include the calendar date on each record.

(4) Stack test records. The owner or operator must keep stack test records as follows:

(a) The results of the stack tests for eight pollutants or parameters recorded in the appropriate units of measure specified in OAR 340-230-0380(1) and (2): Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.

(b) Test reports, including supporting calculations that document the results of all stack tests.

(c) The maximum demonstrated load of the municipal waste combustion units and maximum temperature at the inlet of the particulate matter control device during all stack tests for dioxins/furans emissions.

(d) The calendar date of each record.

(5) Continuous Emissions Monitoring System Records

Keep records of eight items.

(a) Records of monitoring data. The owner or operator must document six parameters measured using continuous monitoring systems as follows:

(A) All 6-minute average levels of opacity.

(B) All 1-hour average concentrations of sulfur dioxide emissions.

(C) For Class I municipal waste combustion units only, all 1-hour average concentrations of nitrogen oxides emissions.

(D) All 1-hour average concentrations of carbon monoxide emissions.

(E) All 1-hour average load levels of the municipal waste combustion unit.

(F) All 1-hour average flue gas temperatures at the inlet of the particulate matter control device.

(b) Records of average concentrations and percent reductions. The owner or operator must document five parameters:

(A) All 24-hour daily block geometric average concentrations of sulfur dioxide emissions or average percent reductions of sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, all 24-hour daily arithmetic average concentrations of nitrogen oxides emissions.

(C) All 4-hour block or 24-hour daily block arithmetic average concentrations of carbon monoxide emissions.

(D) All 4-hour block arithmetic average load levels of the municipal waste combustion unit.

(E) All 4-hour block arithmetic average flue gas temperatures at the inlet of the particulate matter control device.

(c) Records of exceedances. The owner or operator must document three items as follows:

(A) Calendar dates whenever any of the five pollutant or parameter levels recorded in subsection (b) of this section or the opacity level recorded in (a)(1) of this section did not meet the emission limits or operating levels specified in this rule.

(B) Reasons the applicable emission limits or operating levels were exceeded.

(C) Corrective actions undertaken, or are taking, to meet the emission limits or operating levels.

(d) Records of minimum data. The owner or operator must document three items as follows:
(A) Calendar dates for which the owner or operator did not collect the minimum amount of data required under OAR 340-230-0383(7) and 340-230-0387(5). Record those dates for five types of pollutants and parameters:
(i) Sulfur dioxide emissions.
(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.
(iii) Carbon monoxide emissions.
(iv) Load levels of the municipal waste combustion unit.
(v) Temperatures of the flue gases at the inlet of the particulate matter control device.
(B) Reasons the minimum data was not collected.
(C) Corrective actions the owner or operator took or is taking to obtain the required amount of data.
(e) Records of exclusions. The owner or operator must document each time there is excluded data from the calculation of averages for any of the following five pollutants or parameters and the reasons the data were excluded:
(A) Sulfur dioxide emissions.
(B) For Class I municipal waste combustion units only, nitrogen oxides emissions.
(C) Carbon monoxide emissions.
(D) Load levels of the municipal waste combustion unit.
(E) Temperatures of the flue gases at the inlet of the particulate matter control device.
(f) Records of drift and accuracy. The owner or operator must document the results of the daily drift tests and quarterly accuracy determinations according to Procedure 1 of appendix F of 40 CFR Part 60. Keep those records for the sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide continuous emissions monitoring systems.
(g) Records of the relationship between oxygen and carbon dioxide. If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).
(h) Records of calendar dates. The owner or operator must include the calendar date on each record.
(6) Activated carbon records
For municipal waste combustion units that use activated carbon to control dioxins/furans or mercury emissions, the owner or operator must keep records of the following five items:
(a) Records of average carbon feed rate as follows.
(A) Average carbon feed rate in kilograms (or pounds) per hour during all stack tests for dioxins/furans and mercury emissions. Include supporting calculations in the records.
(B) For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxins/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.
(C) All 8-hour block average carbon feed rates in kilograms (or pounds) per hour calculated from the monitored operating parameter.
(D) Total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If the owner or operator chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant. Include supporting documentation.
(E) Required quarterly usage of carbon for the municipal waste combustion plant, calculated using equation 4 or 5 in OAR 340-230-0377(4)(a) and (b). If the owner or

operator chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the plant. Include supporting calculations.

(b) Records of low carbon feed rates as follows:
  (A) The calendar dates when the average carbon feed rate over an 8- hour block was less than the average carbon feed rates determined during the most recent stack test for dioxins/furans or mercury emissions (whichever has a higher feed rate).
  (B) Reasons for the low carbon feed rates.
  (C) Corrective actions undertaken or are taking to meet the 8-hour average carbon feed rate requirement.

(c) Records of minimum carbon feed rate data as follows:
  (A) Calendar dates for which the owner or operator did not collect the minimum amount of carbon feed rate data required under OAR 340-230-0387(5).
  (B) Reasons the owner or operator did not collect the minimum data.
  (C) Corrective actions the owner or operator took or are taking to get the required amount of data.

(d) Records of exclusions. Document each time data from the calculation of average carbon feed rates was excluded and the reasons the data were excluded.

(e) Records of calendar dates. Include the calendar date on each record.

340-230-0395

Reporting

(1) Reports. The owner or operator must:
  (a) Submit to the Department an initial report, semiannual reports, and annual reports, for any emission or parameter level that does not meet the limits specified in this division.
  (b) Submit all reports on paper, postmarked on or before the submittal dates in OAR 340-230-0395(3)(a), (4)(a), and (6)(a). If the Department agrees, the owner or operator may submit electronic reports.

(2) The owner or operator must use OAR 340-230-0380(1) and (2) for the appropriate units of measurement for reporting data.

(3) Initial Report. The owner or operator must:
  (a) Submit the initial report to the Department by June 19, 2004.

The owner or operator must include the following items in the initial report.
  (b) The emission levels measured on the date of the initial evaluation of the continuous emission monitoring systems for all of the following five pollutants or parameters as recorded in accordance with OAR 340-230-0390(5)(b).
    (A) The 24-hour daily geometric average concentration of sulfur dioxide emissions or the 24-hour daily geometric percent reduction of sulfur dioxide emissions.
    (B) For Class I municipal waste combustion units only, the 24-hour daily arithmetic average concentration of nitrogen oxides emissions.
    (C) The 4-hour block or 24-hour daily arithmetic average concentration of carbon monoxide emissions.
    (D) The 4-hour block arithmetic average load level of the municipal waste combustion unit.
    (E) The 4-hour block arithmetic average flue gas temperature at the inlet of the particulate matter control device.
  (c) The results of the initial stack tests for eight pollutants or parameters (use appropriate units as specified in OAR 340-230-0380(1) and (2)): Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.
  (d) The test report that documents the initial stack tests including supporting calculations.

(e) The initial performance evaluation of the continuous emissions monitoring systems. Use the applicable performance specifications in appendix B of 40 CFR Part 60 in conducting the evaluation.

(f) The maximum demonstrated load of the municipal waste combustion unit and the maximum demonstrated temperature of the flue gases at the inlet of the particulate matter control device. Use values established during the initial stack test for dioxins/furans emissions and include supporting calculations.

(g) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the average carbon feed rates that were recorded during the initial stack tests for dioxins/ furans and mercury emissions. Include supporting calculations as specified in OAR 340-230-0390(6)(a)(A) and (B).

(h) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).

(4) Annual Report.

(a) Submission of the annual report. The owner or operator must submit the annual report to the Department by no later than February 1 of each year that follows the calendar year in which the data was collected. This annual report is in addition to any reporting requirement contained in a Title V Operating Permit.

(b) The owner or operator must summarize data collected for all pollutants and parameters and must include the following items:

(A) The results of the annual stack test, using appropriate units, for the following pollutants: Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.

(B) A list of the highest average levels recorded, in the appropriate units. List those values for five pollutants or parameters:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load level of the municipal waste combustion unit.

(v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device (4-hour block average).

(C) The highest 6-minute opacity level measured. Base the value on all 6-minute average opacity levels recorded by the continuous opacity monitoring system

(D) For municipal waste combustion units that use activated carbon for controlling dioxins/furans or mercury emissions, include four records:

(i) The average carbon feed rates recorded during the most recent dioxins/furans and mercury stack tests.

(ii) The lowest 8-hour block average carbon feed rate recorded during the year.

(iii) The total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If the owner or operator chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant.

(iv) The required quarterly carbon usage of the municipal waste combustion plant calculated using equation 4 or 5 in OAR 340-230-0377(4)(a) and (b). If the owner or operator chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the plant.

(E) The total number of days that the owner or operator did not obtain the minimum number of hours of data for six pollutants or parameters. Include the reasons the data was not obtained and corrective actions taken to obtain the data in the future. Include data on:
  (i) Sulfur dioxide emissions.
  (ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.
  (iii) Carbon monoxide emissions.
  (iv) Load level of the municipal waste combustion unit.
  (v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.
  (vi) Carbon feed rate.

(F) The number of hours the owner or operator has excluded data from the calculation of average levels (include the reasons for excluding it). Include data for six pollutants or parameters:
  (i) Sulfur dioxide emissions.
  (ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.
  (iii) Carbon monoxide emissions.
  (iv) Load level of the municipal waste combustion unit.
  (v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.
  (vi) Carbon feed rate.

(G) A notice of the intent to begin a reduced stack testing schedule for dioxins/furans emissions during the following calendar year if eligible for alternative scheduling under OAR 340-230-0385(5)(a) and (b).

(H) A notice of the intent to begin a reduced stack testing schedule for other pollutants during the following calendar year if eligible for alternative scheduling under OAR 340-230-0385(5)(a).

(I) A summary of any emission or parameter level that did not meet the limits specified in this subpart.

(J) A summary of the data in (a) through (d) of this section from the year preceding the reporting year that gives the Department a summary of the performance of the municipal waste combustion unit over a 2-year period.

(K) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).

(L) Documentation of periods when all certified chief facility operators and certified shift supervisors are offsite for more than 12 hours.

(5) Non-compliance. The owner or operator must submit a semiannual report to the Department on any recorded emission or parameter level that does not meet the requirements specified in OAR 340-230-0375 To 0395

(6) Semi-annual report (if it is required)

(a) Submission of the semi-annual report.

(A) For data collected during the first half of a calendar year, the owner or operator must submit the semiannual report to the Department by August 1 of that year.

(B) For data collected during the second half of the calendar year, the owner or operator must submit the semiannual report to the Department by February 1 of the following year.

(b) For any of the following six pollutants or parameters that exceeded the limits specified in OAR 340-230-0375 to 0395, the owner or operator must include the calendar date they

exceeded the limits, the averaged and recorded data for that date, the reasons for exceeding the limits, and the corrective actions:

(A) Concentration or percent reduction of sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, concentration of nitrogen oxides emissions.

(C) Concentration of carbon monoxide emissions.

(D) Load level of the municipal waste combustion unit.

(E) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.

(F) Average 6-minute opacity level. The data obtained from the continuous opacity monitoring system are not used to determine compliance with the limit on opacity emissions.

(c) If the results of the annual stack tests show emissions above the limits specified in OAR 340-230-0380(1) and (2) for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, the owner or operator must include a copy of the test report that documents the emission levels and the corrective actions.

(d) For municipal waste combustion units that apply activated carbon to control dioxins/furans or mercury emissions, the owner or operator must include the following two items:

(A) Documentation of all dates when the 8-hour block average carbon feed rate (calculated from the carbon injection system operating parameter) is less than the highest carbon feed rate established during the most recent mercury and dioxins/furans stack test. Include four items:

(i) Eight-hour average carbon feed rate.

(ii) Reasons for occurrences of low carbon feed rates.

(iii) The corrective actions taken to meet the carbon feed rate requirement.

(iv) The calendar date.

(B) Documentation of each quarter when total carbon purchased and delivered to the municipal waste combustion plant is less than the total required quarterly usage of carbon. If choosing to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant. Include five items:

(i) Amount of carbon purchased and delivered to the plant.

(ii) Required quarterly usage of carbon.

(iii) Reasons for not meeting the required quarterly usage of carbon.

(iv) The corrective actions taken to meet the required quarterly usage of carbon.

(v) The calendar date.

(7) Changing reporting dates.

(a) If the Department agrees, the owner or operator may change the semiannual or annual reporting dates.

(b) See 40 CFR Part 60.19(c) for procedures to seek approval to change the reporting date.

DIVISION 238
NEW SOURCE PERFORMANCE STANDARDS

340-238-0040
Definitions

The definitions in OAR 340-200-0020 and this rule apply to this division. If the same term is defined in this rule and OAR 340-200-0020, the definition in this rule applies to this division.

(1) "Administrator" means the Administrator of the EPA or authorized representative.

(2) "Alternative method" means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but ~~which~~ that has been demonstrated to the Department's satisfaction to, in specific cases, produce results adequate for determination of compliance.
(3) "Capital expenditures" means an expenditure for a physical or operational change to an existing facility that exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in Internal Revenue Service (IRS) Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to an existing facility must not be reduced by any "excluded additions" as defined in IRS Publication 534, as would be done for tax purposes.
(4) "CFR" means Code of Federal Regulations revised as of July 1, ~~2000~~2002.
(5) "Closed municipal solid waste landfill" (closed landfill) means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under 40 CFR 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed. A landfill is considered closed after meeting the criteria of 40 CFR 258.60.
(6) "Commenced", with respect to the definition of "new source" in section 111(a)(2) of the federal Clean Air Act, means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.
(7) "Construction" means fabrication, erection, or installation of a facility.
(8) "Department" means the Department of Environmental Quality or, in the case of Lane County, the Lane Regional Air Pollution Authority.
(9) "Environmental Protection Agency" or "EPA" means the United States Environmental Protection Agency.
(10) "Existing municipal solid waste landfill" (existing landfill) means a municipal solid waste landfill that began construction, reconstruction or modification before 5/30/91 and has accepted waste at any time since 11/08/87 or has additional design capacity available for future waste deposition.
(11) "Equivalent method" means any method of sampling and analyzing for an air pollutant ~~which~~ that has been demonstrated to the Department's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specified conditions.
(12) "Existing facility", with reference to a stationary source, means any apparatus of the type for which a standard is promulgated in 40 CFR Part 60, and the construction or modification of which commenced before the date of proposal by EPA of that standard; or any apparatus ~~which~~ that could be altered in such a way as to be of that type.
(13) "Facility" means all or part of any public or private building, structure, installation, equipment, vehicle or vessel, including, but not limited to, ships.
(14) "Fixed capital cost" means the capital needed to provide all the depreciable components.
(15) "Large municipal solid waste landfill" (large landfill) means a municipal solid waste landfill with a design capacity greater than or equal to 2.5 million megagrams or 2.5 million cubic meters.
(16) "Modification:"
    (a) except as provided in subsection (b) of this section, means any physical change in, or change in the method of operation of, an existing facility ~~which~~ that increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or ~~which~~ that results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted;

(b) As used in OAR 340-238-0100 means an action that results in an increase in the design capacity of a landfill.

(17) "Municipal solid waste landfill" (landfill) means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A municipal solid waste landfill may also receive other types of RCRA Subtitle D wastes such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of a municipal solid waste landfill may be separated by access roads and may be publicly or privately owned. A municipal solid waste landfill may be a new municipal solid waste landfill, an existing municipal solid waste landfill, or a lateral expansion (modification).

(18) "New municipal solid waste landfill" (new landfill) means a municipal solid waste landfill that began construction, reconstruction or modification or began accepting waste on or after 5/30/91.

(19) "Particulate matter" means any finely divided solid or liquid material, other than uncombined water, as measured by an applicable reference method, or an equivalent or alternative method.

(20) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(a) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility; and

(b) It is technologically and economically feasible to meet the applicable standards set forth in 40 CFR Part 60.

(21) "Reference method" means any method of sampling and analyzing for an air pollutant as specified in 40 CFR Part 60 ~~(July 1, 2000)~~.

(22) "Small municipal solid waste landfill" (small landfill) means a municipal solid waste landfill with a design capacity less than 2.5 million megagrams or 2.5 million cubic meters.

(23) "Standard" means a standard of performance proposed or promulgated under 40 CFR Part 60.

(24) "State Plan" means a plan developed for the control of a designated pollutant provided under 40 CFR Part 60.

(25) "Stationary source" means any building, structure, facility, or installation that emits or may emit any air pollutant subject to regulation under the federal Clean Air Act.

(26) "Volatile organic compounds" or "VOC" means any organic compounds that participate in atmospheric photochemical reactions; or that are measured by a reference method, an equivalent method, an alternative method, or that are determined by procedures specified under any applicable rule.

[Publications: The Publication(s) referred to in this rule are available from the office of the agency.]

Stat. Auth.: ORS 468.020

Stats. Implemented: ORS 468A.025

Hist.: DEQ 97, f. 9-2-75, ef. 9-25-75; DEQ 22-1982, f. & ef. 10-21-82; DEQ 17-1983, f. & ef. 10-19-83; DEQ 16-1984, f. & ef. 8-21-84; DEQ 15-1985, f. & ef. 10-21-85; DEQ 19-1986, f. & ef. 11-7-86; DEQ 17-1987, f. & ef. 8-24-87; DEQ 24-1989, f. & cert. ef. 10-26-89; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 8-1997, f. & cert. ef. 5-6-97; DEQ 22-1998, f. & cert. ef. 10-21-98; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0510; DEQ 22-2000, f. & cert. ef. 12-18-00

340-238-0050
General Provisions

(1) Except as provided in section (2) of this rule, 40 CFR Part 60, Subpart A ~~(July 1, 2000)~~ is by this reference adopted and incorporated herein.
(2) Where "Administrator" or "EPA" appears in 40 CFR Part 60, Subpart A, "Department" is substituted, except in any section of 40 CFR Part 60 for which a federal rule or delegation specifically indicates that authority ~~will~~must not be delegated to the state.
[Publications: The Publication(s) referenced to in this rule are available from the office of the agency.]

Stat. Auth.: ORS 468.020

Stats. Implemented: ORS 468A.025

Hist.: DEQ 97, f. 9-2-75, ef. 9-25-75; DEQ 16-1981, f. & ef. 5-6-81; DEQ 22-1982, f. & ef. 10-21-82; DEQ 17-1983, f. & ef. 10-19-83; DEQ 16-1984, f. & ef. 8-21-84; DEQ 15-1985, f. & ef. 10-21-85; DEQ 19-1986, f. & ef. 11-7-86; DEQ 17-1987, f. & ef. 8-24-87; DEQ 24-1989, f. & cert. ef. 10-26-89; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 8-1997, f. & cert. ef. 5-6-97; DEQ 22-1998, f. & cert. ef. 10-21-98; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0530; DEQ 22-2000, f. & cert. ef. 12-18-00

340-238-0060
Federal Regulations Adopted by Reference

((1) Except as provided in section (2) of this rule, 40 CFR Part 60 Subparts D through XX and BBB through NNN and PPP through WWW, AAAA and CCCC ~~(July 1, 2000)~~ are by this reference adopted and incorporated herein, and 40 CFR Part 60 Subpart OOO ~~(July 1, 2000)~~ is by this reference adopted and incorporated herein for major sources only.
(2) Where "Administrator" or "EPA" appears in 40 CFR Part 60, "Department" is substituted, except in any section of 40 CFR Part 60 for which a federal rule or delegation specifically indicates that authority ~~will~~must not be delegated to the state.
(3) 40 CFR Part 60 Subparts adopted by this rule are titled as follows:
(a) Subpart D - Fossil-fuel-fired steam generators for which construction is commenced after August 17, 1971;
(b) Subpart Da - Electric utility steam generating units for which construction is commenced after September 18, 1978;
(c) Subpart Db - Industrial-commercial-institutional steam generating units;
(d) Subpart Dc - Small industrial-commercial-institutional steam generating units;
(e) Subpart E - Incinerators;
(f) Subpart Ea - Municipal waste combustors for which construction is commenced after December 20, 1989 and on or before September 20, 1994;
(g) Subpart Eb - Municipal waste combustors for which construction is commenced after September 20, 1994;
(h) Subpart Ec - Hospital/Medical/Infectious waste incinerators that commenced construction after June 20, 1996, or for which modification is commenced after March 16, 1998;
(i) Subpart F - Portland cement plants;(i) Subpart G – Nitric acid plants;
(j) Subpart G - Nitric acid plants;
(k) Subpart H - Sulfuric acid plants;
(l) Subpart I - Hot mix asphalt facilities;
(m) Subpart J - Petroleum refineries;
(n) Subpart K - Storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after June 11, 1973, and ~~prior to~~before May 19, 1978;
(o) Subpart Ka - Storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978, and ~~prior to~~before July 23, 1984;

(p) Subpart Kb - Volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984;
(q) Subpart L - Secondary lead smelters;
(r) Subpart M - Secondary brass and bronze production plants;
(s) Subpart N - Primary emissions from basic oxygen process furnaces for which construction is commenced after June 11, 1973;
(t) Subpart Na - Secondary emissions from basic oxygen process steelmaking facilities for which construction is commenced after January 20, 1983;
(u) Subpart O - Sewage treatment plants;
(v) Subpart P - Primary copper smelters;
(w) Subpart Q - Primary Zinc smelters;
(x) Subpart R - Primary lead smelters;
(y) Subpart S - Primary aluminum reduction plants;
(z) Subpart T - Phosphate fertilizer industry: wet-process phosphoric acid plants;
(aa) Subpart U - Phosphate fertilizer industry: superphosphoric acid plants;
(bb) Subpart V - Phosphate fertilizer industry: diammonium phosphate plants;
(cc) Subpart W - Phosphate fertilizer industry: triple superphosphate plants;
(dd) Subpart X - Phosphate fertilizer industry: granular triple superphosphate storage facilities;
(ee) Subpart Y - Coal preparation plants;
(ff) Subpart Z - Ferroalloy production facilities;
(gg) Subpart AA - Steel plants: electric arc furnaces constructed after October 21, 1974 and on or before August 17, 1983;
(hh) Subpart AAa - Steel plants: electric arc furnaces and argon-oxygen decarburization vessels constructed after august 7, 1983;
(ii) Subpart BB - Kraft pulp mills;
(jj) Subpart CC - Glass manufacturing plants;
(kk) Subpart DD - Grain elevators.
(ll) Subpart EE - Surface coating of metal furniture;
(mm) Subpart GG - Stationary gas turbines;
(nn) Subpart HH - Lime manufacturing plants;
(oo) Subpart KK - Lead-acid battery manufacturing plants;
(pp) Subpart LL - Metallic mineral processing plants;
(qq) Subpart MM - Automobile and light-duty truck surface coating operations;
(rr) Subpart NN - Phosphate rock plants;
(ss) Subpart PP - Ammonium sulfate manufacture;
(tt) Subpart QQ - Graphic arts industry: publication rotogravure printing;
(uu) Subpart RR - pressure sensitive tape and label surface coating operations;
(vv) Subpart SS - Industrial surface coating: large appliances;
(ww) Subpart TT - Metal coil surface coating;
(xx) Subpart UU - Asphalt processing and asphalt roofing manufacture;
(yy) Subpart VV - Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry;
(zz) Subpart WW - Beverage can surface coating industry;
(aaa) Subpart XX - Bulk gasoline terminals;
(bbb) Subpart BBB - Rubber tire manufacturing industry;
(ccc) Subpart DDD - Volatile organic compound (VOC) emissions for the polymer manufacture industry;
(ddd) Subpart FFF - Flexible vinyl and urethane coating and printing;
(eee) Subpart GGG - equipment leaks of VOC in petroleum refineries;

(fff) Subpart HHH - Synthetic fiber production facilities;
(ggg) Subpart III - Volatile organic compound (VOC) emissions from the synthetic organic chemical manufacturing industry (SOCMI) air oxidation unit processes;
(hhh) Subpart JJJ - Petroleum dry cleaners;
(iii) Subpart KKK - Equipment leaks of VOC from onshore natural gas processing plants;
(jjj) ubpart LLL - Onshore natural gas processing; SO2 emissions;
(kkk) Subpart NNN - Volatile organic compound (VOC) emissions from synthetic organic chemical manufacturing industry (SOCMI) distillation operations;
(lll) Subpart OOO - Nonmetallic mineral processing plants (adopted by reference for major sources only);
(mmm) Subpart PPP - Wool fiberglass insulation manufacturing plants;
(nnn) Subpart QQQ - VOC emissions from petroleum refinery wastewater systems;
(ooo) Subpart RRR - Volatile organic compound emissions from synthetic organic chemical manufacturing industry (SOCMI) reactor processes;
(ppp) Subpart SSS - Magnetic tape coating facilities;
(qqq) Subpart TTT - Industrial surface coating: surface coating of plastic parts for business machines;
(rrr) Subpart UUU - Calciners and dryers in mineral industries;
(sss) Subpart VVV - Polymeric coating of supporting substrates facilities;
(ttt) Subpart WWW - Municipal solid waste landfills, as clarified by OAR 340-238-0100;
(uuu) Subpart AAAA – Small waste combustion units;
(vvv) Subpart CCCC – Commercial and Industrial Solid Waste Incineration Units.

[Publications: The Publication(s) referenced to in this rule are available from the office of the agency.]

Stat. Auth.: ORS 468.020

Stats. Implemented: ORS 468A.025

Hist.: DEQ 97, f. 9-2-75, ef. 9-25-75; DEQ 16-1981, f. & ef. 5-6-81; sections (1) thru (12) of this rule renumbered to 340-025-0550 thru 340-025-0605; DEQ 22-1982, f. & ef. 10-21-82; DEQ 17-1983, f. & ef. 10-19-83; DEQ 16-1984, f. & ef. 8-21-84; DEQ 15-1985, f. & ef. 10-21-85; DEQ 19-1986, f. & ef. 11-7-86; DEQ 17-1987, f. & ef. 8-24-87; DEQ 24-1989, f. & cert. ef. 10-26-89; DEQ 17-1993, f. & cert. ef. 11-4-93; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 8-1997, f. & cert. ef. 5-6-97; DEQ 22-1998, f. & cert. ef. 10-21-98; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0535; DEQ 22-2000, f. & cert. ef. 12-18-00

DIVISION 244
OREGON FEDERAL HAZARDOUS AIR POLLUTANT PROGRAM
General Provisions for Stationary Sources

Emission Standards

340-244-0200
Emissions Limitation for New and Reconstructed Major Sources

(1) Federal MACT. Any person who proposes to construct a major source of HAP after an applicable emissions standard has been proposed by the EPA pursuant to Section 112(d), Section 112(n), or Section 129 of the FCAA ~~shall~~must comply with the requirements and emission standard for new sources when promulgated by EPA.

(2) State MACT. Any person who proposes to construct or reconstruct a major source of hazardous air pollutants before MACT requirements applicable to that source have been proposed by the EPA and after the effective date of the program ~~shall~~must comply with new and reconstructed source MACT requirements of 40 CFR Part 63, Subpart B.

(3) Compliance schedule. The owner or operator of a new or reconstructed source must on and after the date of start-up, be in compliance with all applicable requirements specified in the Federal or State MACT. ~~demonstrate to the Department that it can comply with the required emission limitation by performing the performance test required by **40 CFR Part 63, Subpart A** within 180 days after startup.~~

Stat. Auth.: ORS 468.020 & ORS 468A.025

Stats. Implemented: ORS 468A.040

Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 22-1995, f. & cert. ef. 10-6-95; DEQ 20-1997, f. & cert. ef. 9-25-97; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0500

340-244-0210

Emissions Limitation for Existing Sources

(1) Federal MACT. Existing major and area sources ~~shall~~must comply with the applicable emissions standards for existing sources promulgated by the EPA pursuant to section 112(d), section 112(n), or section 129 of the FCAA and adopted by rule within this Division.

(2) State MACT. ~~After January 3, 1995, i~~If the EPA fails to meet its schedule for promulgating a MACT standard for a source category or subcategory, the Department ~~shall~~must approve HAP emissions limitations for existing major sources within that category ~~on a case by case basis~~ or subcategory according to 40 CFR Part 63, Subpart B.

~~(a)Within 18 months of written notification by the Department of the applicability of a MACT standard the owner or operator of each existing major source within that category shall notify the Department whether that source will:~~

~~(A)Achieve at least the maximum degree of emissions reduction that is achieved in practice by the best controlled similar source, using measures listed in, but not limited to, OAR 340-244-0200(2); or~~

~~(B)Achieve at least the average emissions limitation achieved in practice by the best performing 12 percent of existing sources for sources in a category or subcategory with 30 or more sources nationwide, or at least the average emissions limitation achieved by the best performing five sources in a category or subcategory with fewer than 30 sources nationwide, using measures listed in, but not limited to, OAR 340-244-0200(2),~~

(a) ~~Within 18 months of notification by the Department of the applicability of a MACT standard t~~

The owner or operator of each existing major source within that category ~~shall~~will file permit applications in accordance with OAR 340-218-0040 and 40 CFR Part 63, Subpart B.~~, proposing an emissions limitation. In addition to the permit application requirements of OAR 340-218-0040 the applicant shall include an analysis of:~~

~~(A)Each reduction technique considered;~~

~~(B)The emissions reduction it would provide; and~~

~~(C)~~(A) ~~Its technical and economic feasibility.~~

~~(c)~~(b) If, after a permit has been issued, the EPA promulgates a MACT standard applicable to a source ~~which~~ that is more stringent than the one established pursuant to this section, the Department ~~shall~~may revise the permit upon the next renewal to reflect the standard promulgated by the EPA. The source ~~shall~~must be given a reasonable time to comply, but no longer than 8 years after the standard is promulgated;

~~(d)~~(c) The Department ~~shall~~must not establish a case-by-case State MACT:

(A) For existing solid waste incineration units where an emissions standard will be established for these units by the EPA pursuant to section 111 of the FCAA. These sources are subject to applicable emissions standards under OAR Chapter 340, Division 25; or

(B) For existing major HAP sources where an emissions standard or alternative control strategy will be established by the EPA pursuant to section 112(n) of the FCAA.

(3) Compliance schedule:

(a) The owner or operator of the source ~~shall~~must comply with the emission limitation:

(A) Within the time frame established in the applicable Federal MACT standard, but in no case later than three years from the date of federal promulgation of the applicable MACT requirements; or

(B) Within the time frame established by the Department where a State determined MACT has been established or a case-by-case determination has been made.

(b) The owner or operator of the source may apply for, and the Commission may grant, a compliance extension of up to one year if such additional period is necessary for the installation of controls;

(c) Notwithstanding the requirements of this section, no existing source that has installed Best Available Control Technology or been required to meet Lowest Achievable Emission Rate ~~prior to~~before the promulgation of a federal MACT applicable to that emissions unit ~~shall~~ is be required to comply with such MACT standard until 5 years after the date on which such installation or reduction has been achieved, as determined by the Department.

Stat. Auth.: ORS 468 & ORS 468A

Stats. Implemented: ORS 468A.310

Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 7-1998, f. & cert. ef. 5-5-98; DEQ 18-1998, f. & cert. ef. 10-5-98, Renumbered from 340-032-2500; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0505

340-244-0220

Federal Regulations Adopted by Reference

(1) Except as provided in sections (2) and (3) of this rule, 40 CFR Part 61, Subparts A through F, I, J, L, N through P, V and Y through FF (July 1, ~~2001~~2002) and 40 CFR Part 63, Subparts A, F, G, H, I, L, M, N, O, Q, R, S, T, U, W, X, Y, AA, BB, CC, DD, EE, GG, HH, II, JJ, KK, LL, MM, OO, PP, QQ, RR, SS, TT, UU, VV, WW, YY, CCC, DDD, EEE, GGG, HHH, III, JJJ, LLL, MMM, NNN, OOO, PPP, QQQ, RRR, TTT, UUU, VVV, XXX, CCCC,GGGG, HHHH, SSSS, TTTT, UUUU, and VVVV (July 1, 2002~~1~~) are adopted by reference ~~adopted~~ and incorporated herein.

(2) Where "Administrator" or "EPA" appears in 40 CFR Part 61 or 63, "Department" ~~shall be~~is substituted, except in any section of 40 CFR Part 61 or 63, for which a federal rule or delegation specifically indicates that authority will not be delegated to the state.

(3) 40 CFR Part 63 Subpart M -- Dry Cleaning Facilities using Perchloroethylene: The exemptions in 40 CFR 63.320(d) and (e) do not apply.

(4) 40 CFR Part 61 Subparts adopted by this rule are titled as follows:

(a) Subpart A -- General Provisions;

(b) Subpart B -- Radon Emissions from Underground Uranium Mines;

(c) Subpart C -- Beryllium;

(d) Subpart D -- Beryllium Rocket Motor Firing;

(e) Subpart E -- Mercury;

(f) Subpart F -- Vinyl Chloride;

(g) Subpart I -- Radionuclide Emissions from Federal Facilities Other than Nuclear Regulatory Commission Licensee and Not Covered by Subpart H;

(h) Subpart J -- Equipment Leaks of Benzene;

(i) Subpart L -- Benzene Emissions from Coke By-Product Recovery Plants;
(j) Subpart N -- Inorganic Arsenic Emissions from Glass Manufacturing Plants;
(k) Subpart O -- Inorganic Arsenic Emissions from Primary Copper Smelters;
(l) Subpart P -- Inorganic Arsenic Emissions from Arsenic Trioxide and Metal Arsenic Facilities;
(m) Subpart V -- Equipment Leaks (Fugitive Emission Sources);
(n) Subpart Y -- Benzene Emissions from Benzene Storage Vessels;
(o) Subpart BB -- Benzene Emissions from Benzene Transfer Operations; and
(p) Subpart FF -- Benzene Waste Operations.

(5) 40 CFR Part 63 Subparts adopted by this rule are titled as follows:
(a) Subpart A -- General Provisions;
(b) Subpart F -- SOCMI;
(c) Subpart G -- SOCMI -- Process Vents, Storage Vessels, Transfer Operations, and Wastewater;
(d) Subpart H -- SOCMI -- Equipment Leaks;
(e) Subpart I -- Certain Processes Subject to the Negotiated Regulation for Equipment Leaks;
(f) Subpart L -- Coke Oven Batteries;
(g) Subpart M -- Dry Cleaning Facilities using Perchloroethylene;
(h) Subpart N -- Hard and Decorative Chromium Electroplating and Chromium Anodizing;
(i) Subpart O -- Ethylene Oxide Sterilization;
(j) Subpart Q -- Industrial Process Cooling Towers;
(k) Subpart R -- Gasoline Distribution (Bulk Gasoline Terminals and Pipeline Breakout Stations);
(l) Subpart S -- Pulp and Paper Industry;
(m) Subpart T -- Halogenated Solvent Cleaning;
(n) Subpart U -- Group I Polymers and Resins;
(o) Subpart W -- Epoxy Resins and Non-Nylon Polyamides Production;
(p) Subpart X -- Secondary Lead Smelting;
(q) Subpart Y -- Marine Tank Vessel Loading Operations;
(r) Subpart AA -- Phosphoric Acid Manufacturing Plants;
(s) Subpart BB -- Phosphate Fertilizer Production Plants;
(t) Subpart CC -- Petroleum Refineries;
(u) Subpart DD -- Off-Site Waste and Recovery Operations;
(v) Subpart EE -- Magnetic Tape Manufacturing Operations;
(w) Subpart GG -- Aerospace Manufacturing and Rework Operations;
(x) Subpart HH -- Oil and Natural Gas Production Facilities;
(y) Subpart II -- Shipbuilding and Ship Repair (Surface Coating);
(z) Subpart JJ -- Wood Furniture Manufacturing Operations;
(aa) Subpart KK -- Printing and Publishing Industry;
(bb) Subpart LL -- Primary Aluminum Reduction Plants;
(cc) Subpart MM -- Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semi-Chemical Pulp Mills
(dd) Subpart OO -- Tanks -- Level 1;
(ee) Subpart PP -- Containers;
(ff) Subpart QQ -- Surface Impoundments;
(gg) Subpart RR -- Individual Drain Systems;
(hh) Subpart SS -- Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process;
(ii) Subpart TT -- Equipment Leaks -- Control Level 1;
(jj) Subpart UU -- Equipment Leaks -- Control Level 2;
(kk) Subpart VV -- Oil-Water Separators and Organic-Water Separators;

(ll) Subpart WW -- Storage Vessels (Tanks) -- Control Level 2;
(mm) Subpart YY -- Generic Maximum Achievable Control Technology Standards;
(nn) Subpart CCC -- Steel Pickling -- HCl Process Facilities and Hydrochloric Acid Regeneration Plants;
(oo) Subpart DDD -- Mineral Wool Production;
(pp) Subpart EEE -- Hazardous Waste Combustors;
(qq) Subpart GGG -- Pharmaceuticals Production;
(rr) Subpart HHH -- Natural Gas Transmission and Storage Facilities;
(ss) Subpart III -- Flexible Polyurethane Foam Production;
(tt) Subpart JJJ -- Group IV Polymers and Resins;
(uu) Subpart LLL -- Portland Cement Manufacturing Facilities;
(vv) Subpart MMM -- Pesticide Active Ingredient Production;
(ww) Subpart NNN -- Wool Fiberglass Manufacturing;
(xx) Subpart OOO -- Manufacture of Amino/Phenolic Resins;
(yy) Subpart PPP -- Polyether Polyols Production;
(zz) Subpart QQQ – Primary Copper;
(aaazz) Subpart RRR -- Secondary Aluminum Production;
(bbbaaa) Subpart TTT -- Primary Lead Smelting;
(ccc) Subpart UUU – Petroleum Refineries – Catalytic Cracking, Catalytic Reforming, and Sulfur Plant Units;
(dddbbb) Subpart VVV -- Publicly Owned Treatment Works;
(eeeeee) Subpart XXX -- Ferroalloys Production: Ferromanganese and silicomanganese;
(fffddd) Subpart CCCC -- Manufacturing of Nutritional Yeast;
(gggeee) Subpart GGGG -- Solvent Extraction for Vegetable Oil Production;
(hhh) Subpart HHHH – Wet Formed Fiberglass Mat Production;
(iii) Subpart SSSS – Metal coil (Surface Coating);
(jjj) Subpart TTTT – Leather Finishing Operations;
(kkk) Subpart UUUU – Cellulose Production Manufacturing;
(lll) Subpart VVVV – Boat Manufacturing

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468.020

Stats. Implemented: ORS 468A.025

Hist.: [DEQ 16-1995, f. & cert. ef. 6-21-95; DEQ 28-1996, f. & cert. ef. 12-19-96; DEQ 18-1998, f. & cert. ef. 10-5-98]; [DEQ 18-1993, f. & cert. ef. 11-4-93; DEQ 32-1994, f. & cert. ef. 12-22-94]; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0510, 340-032-5520; DEQ 11-2000, f. & cert. ef. 7-27-00; DEQ 15-2001, f. & cert. ef. 12-26-01

340-244-0230

Accidental Release Prevention

(1) List. For purposes of this rule, the Commission adopts by reference the Llist of Rregulated Ssubstances and Tthresholds for Aaccidental rRelease Pprevention codified at 40 CFR Part 68.130 Subpart F (July 1, 20012002) which includes the Department of Transportation Division 1.1 Explosive Standards List (49 CFR 172.101). (Table 3).

(2) Risk Management Plan. The owner or operator of a stationary source at which a substance listed in Table 3 is present in greater than the threshold quantity shallmust prepare and implement a written risk management plan to detect and prevent or minimize accidental releases, and to provide a prompt emergency response to any such releases in order to protect human health and the environment.

(3) Compliance. The owner or operator of a stationary source required to prepare and implement a risk management plan under section (2) of this rule shallmust:
(a) Register the risk management plan with the EPA;

(b) Submit copies of the risk management plan to the U.S. Chemical Safety and Hazard Identification Board, the Department, and the Oregon Office of Emergency Management; and

(c) Submit as part of the compliance certification required under OAR 340-218-0080, annual certification to the Department that the risk management plan is being properly implemented.

(4) Compliance schedule:

(a) The owner or operator of a stationary source ~~shall~~must prepare and implement a risk management plan under section (2) of this rule according to the schedule promulgated by the EPA;

(b) The owner or operator of a stationary source that adds a listed substance or exceeds the threshold ~~shall~~must prepare and implement a risk management plan according to the schedule promulgated by the EPA.

[ED. NOTE: Tables referenced in this rule are available from the agency.]

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468.020 & ORS 468A.310

Stats. Implemented: ORS 468A.025

Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 18-1993, f. & cert. ef. 11-4-93; DEQ 24-1994, f. & cert. ef. 10-28-94; DEQ 18-1998, f. & cert. ef. 10-5-98; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-5400; DEQ 11-2000, f. & cert. ef. 7-27-00; DEQ 15-2001, f. & cert. ef. 12-26-01

State of Oregon
Department of Environmental Quality Memorandum

Date: September 6, 2002

To: Environmental Quality Commission

From: Wendy Anderson, Air Quality Division

Subject: Presiding Officer's Report for Rulemaking Hearing
Hearing Date and Time: August 28, 2002, beginning at 3:00 p.m.
Hearing Location: DEQ Headquarters, Room 3A
811 S.W. Sixth Avenue
Portland

Title of Proposal: Annual Update: Incorporation of National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS)

The rulemaking hearing on the above titled proposal was convened at 3:00 p.m. No one attended the proceedings or presented testimony and the hearing was closed at 3:30p.m.

Summary of Oral Testimony

None.

Written Testimony

None.

Summary of Public Comment and Agency Response

Title of Rulemaking: Incorporation of National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS)

Prepared by: Rachel Sakata **Date: September 6, 2002**

Comment period	The public comment period opened on July 24, 2002 and closed at 5:00 p.m. on September 6, 2002. DEQ held a public hearing on August 28, 2002 at 3:00p.m. at the DEQ Headquarters office in Portland, Oregon. No one attended the hearing or submitted written comments
Organization of comments and responses	No comments were submitted.

Attachment C
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Questions to be Answered to Reveal
Potential Justification for Differing from Federal Requirements.

Note: The proposed rules and rule amendments do not differ from federal requirements.

1. Are there federal requirements that are applicable to this situation? If so, exactly what are they?

Yes. This rulemaking involves the adoption of federal rules by reference and standards equivalent to federal emission guidelines. The Department adopts these rules to maintain consistency with the federal standards. By doing so, the Department can apply for delegation to be the primary implementer of these rules in Oregon. These standards must be included in Title V permits.

2. Are the applicable federal requirements performance based, technology based, or both with the most stringent controlling?

Both performance and technology based.

3. Do the applicable federal requirements specifically address the issues that are of concern in Oregon? Was data or information that would reasonably reflect Oregon's concern and situation considered in the federal process that established the federal requirements?

Yes, the federal requirements address control of criteria pollutants and hazardous air pollutants of concern. Data and information representative of human health and environmental effects of criteria pollutants, hazardous air pollutants, and available emission control technology were considered in the federal process that established these rules. In addition, during the development of the National Emission Standards for Hazardous Air Pollutants (NESHAP), the U.S. Environmental Protection Agency (EPA) requests information from all sources in a given source category. Therefore, during the process of developing the NESHAPs, the EPA used information on Oregon sources.

4. Will the proposed requirement improve the ability of the regulated community to comply in a more cost effective way by clarifying confusing or potentially conflicting requirements (within or cross-media), increasing certainty, or preventing or reducing the need for costly retrofit to meet more stringent requirements later?

This rulemaking will avoid conflicting or confusing requirements by making Department rules consistent with the federal rules.

5. Is there a timing issue which might justify changing the time frame for implementation of federal requirements?

No

6. Will the proposed requirement assist in establishing and maintaining a reasonable margin for accommodation of uncertainty and future growth?

Not applicable

7. Does the proposed requirement establish or maintain reasonable equity in the requirements for various sources? (level the playing field)

Yes. This rulemaking proposes to adopt emission guidelines for small municipal waste combustor (MWC) units consistent with federal requirements. The U.S. Environmental Protection Agency originally promulgated emission guidelines for large and small MWC in December 1995, but the guidelines for the small MWC were vacated by the U.S. Court of Appeals in March 1997. EPA re-proposed and finalized the emission guidelines for small MWC in December 1997. This rulemaking proposes to adopt these guidelines as rules.

The proposed changes to the 'MACT Hammer' application submittal deadlines will level the playing between Oregon sources and sources in other states.

8. Would others face increased costs if a more stringent rule is not enacted?

No

9. Does the proposed requirement include procedural requirements, reporting or monitoring requirements that are different from applicable federal requirements? If so, Why? What is the "compelling reason" for different procedural, reporting or monitoring requirements?

No

10. Is demonstrated technology available to comply with the proposed requirement?

Yes

11. Will the proposed requirement contribute to the prevention of pollution or address a potential problem and represent a more cost effective environmental gain?

No. Small municipal waste combustor units already comply with existing state incineration regulations that are just as stringent as the new regulations.

Attachment D
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
NSPS and NESHAP Rule Adoption

Fiscal and Economic Impact Statement

Introduction

This proposal would:

- Adopt by reference the federal New Source Performance Standards (NSPS) for one new source category, Small Municipal Waste Combustor Units:
- Adopt by reference the federal National Emission Standards for Hazardous Air Pollutants (NESHAPs) for seven new source categories:
  - Boat Manufacturing
  - Cellulose Production Manufacturing
  - Leather Finishing Operations
  - Metal Coil (Surface Coating)
  - Petroleum Refineries – Catalytic Cracking, Catalytic Reforming, and Sulfur Plant Units
  - Primary Copper
  - Wet Formed Fiberglass Mat Production
- Adopt an emission standard for existing small municipal waste combustors (MWC):
- Update an emission standard for existing large municipal waste combustors:
- Update existing hazardous air pollutant (HAP) regulations and new source performance standards to incorporate changes in the federal NESHAPs and NSPSs through July 1, 2002:
- Adopt new application deadlines for State Maximum Achievable Control Technology (MACT) for existing sources, discussed later in this document as the 'MACT Hammer':
- Clarify the emission control equipment testing requirement under MACT for new and reconstructed major sources.

Federal NSPSs and NESHAPs apply to affected sources regardless of the Department's adoption of these regulations. The U.S. Environmental Protection Agency (EPA) addressed the economic impact of the NSPS and NESHAPs when they promulgated the standards.

Sources will benefit by having the Department implement these standards instead of the EPA. These benefits include quicker approval of some applicability determination requests and alternative testing, monitoring, recordkeeping and reporting requests.

The emission guidelines for municipal waste combustors (MWC) will impose minimal economic impact on the one affected source, Coos County Solid Waste. Because of control equipment already in place, Coos County Solid Waste already complies with the new requirements.

Adopting the new 'MACT Hammer' application deadlines will level the playing field for sources in Oregon and eliminate unnecessary work for the Department.

General Public

The costs associated with the proposed rules do not adversely affect the general public. The only costs to the general public would be possible pass-through costs to customers, but the cost to any given customer is assumed to be negligible.

Small Business

The new NSPS does not affect any small businesses.

The new Boat Manufacturing NESHAP affects one or two small businesses. NESHAP standards apply to affected sources when they are promulgated by the EPA. By adopting the federal Boat Manufacturing NESHAP by reference, this rulemaking does not add any new requirements. These businesses are major sources of HAPs and already have Title V permits. OAR 340-218-0200(1)(a)(A) requires the incorporation of new federal requirements into existing Title V permits not later than 18 months after promulgation by the EPA or upon renewal if less than 3 years remains on the permit on the promulgation date. EPA estimates the annual cost (including annualized capital and operating costs) of the Boat Manufacturing NESHAP is $4060 per ton of HAP reduced.

Large Business

As previously stated, NSPS and NESHAP standards apply to affected sources when they are promulgated by the EPA. By adopting the NSPS and NESHAP standards by reference, this rulemaking does not add any new requirements. Based on EPA estimates a total annual cost (including annualized capital and operating costs) of the final emission guideline on small MWC of $125.30 per ton of municipal solid waste combusted. For the Boat Manufacturing NESHAP, EPA estimates a total annual cost (including annualized capital and operating costs) of the NESHAP of $4060 per ton of HAP reduced.

All sources affected by these rules already have permits, and this rulemaking will result in conditions being added to existing Title V and ACDP permits. Implementing the NSPS and NESHAPs through existing permits will not add additional cost.

Local Governments

The only local government affected by this rule making is Coos County Solid Waste which is subject to the emission guidelines for MWCs. Because of control equipment already in place, Coos County Solid Waste already complies with the new requirements. Therefore, the proposed rulemaking will not negatively affect any local governments.

State Agencies

The Department will implement the proposed rules through the existing permit programs (ACDP and Title V). Therefore, the Department does not expect any increase in costs. The Department does not anticipate any fiscal or economic impacts from this proposed rulemaking on other state agencies.

Assumptions

All cost assumptions by EPA are addressed above.

Housing Cost Impact Statement

This proposed rulemaking will not affect the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.

Attachment E
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
NSPS and NESHAP Rule Adoption

Land Use Evaluation Statement

1. **Explain the purpose of the proposed rules.**

   The U.S. Environmental Protection Agency (EPA) recently promulgated New Source Performance Standards (NSPS) for two source categories and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for seven new source categories. The Oregon Department of Environmental Quality (Department) proposes to adopt, by reference, these NSPS and NESHAP rules and to incorporate an emission guideline for small Municipal Waste Combustors (MWC). The Department also intends to update existing NSPS and NESHAP rules by incorporating changes to the federal NSPS and NESHAPs through July 1, 2002.

   The Department proposes to adopt changes to the 'MACT Hammer' application process recently promulgated by the EPA. The Department also proposes to clarify the emission control equipment testing requirements under MACT for new and reconstructed major sources. Affected sources may still be required to conduct a performance test, depending on the compliance method used by the source.

2. **Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?**

   Yes X No____

   a. **If yes, identify existing program/rule/activity:**

      The issuance of air permits has been deemed a DEQ Land Use Program. The Department will implement the proposed NSPS and NESHAPs for major source categories through the Department's Title V Operating Permit Program, and the NSPS and NESHAPs for area source categories through the Department's Air Contaminant Discharge Permit (ACDP) Program.

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes X **No**____ **(if no, explain):**

The Department will implement these rules through the ACDP and Title V permitting programs. Cities and counties currently provide Land Use Compatibility Statement approval before the Department issues these permits or approves a Notice of Construction.

c. If no, apply the following criteria to the proposed rules.

Not applicable

In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

Not applicable

3. If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.

Not applicable

[signed by Andy Ginsburg]	[signed by Roberta Young]	7/18/02
Division	Intergovernmental Coord.	Date

Attachment F
NESHAPs Delegation Table

Subpart	Source Category	Oregon Affected Sources	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
						Covered EPA Revisions Through			
			Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
PART 61									
A	General Provisions	0	4/6/1973	38 FR 8826	7/1/2001	12/14/2000	65 FR 78280		
B	Radon Emissions from Underground Storage Tanks	0	12/15/1989	54 FR 51694	7/1/2001				
C	Beryllium	0	4/6/1973	38 FR 8826	7/1/2001	11/7/1985	50 FR 46294		
D	Beryllium Rocket Motor Firing	0	4/6/1973	38 FR 8826	7/1/2001	11/7/1985	50 FR 46294		
E	Mercury	1	4/6/1973	38 FR 8826	7/1/2001	9/23/1988	53 FR 36972		
F	Vinyl Chloride	0	10/21/1976	41 FR 46564	7/1/2001	12/23/1992	57 FR 60999		
I	Radionuclide Emissions from Federal Facilities Other than Nuclear Regulatory Comission Licensee and Not Covered by Subpart H	0	12/15/1989	54 FR 51697	7/1/2001	12/30/1996	61 FR 68981		
L	Benzene Emissions from Coke By-Product Recovery Plants	0	9/14/1989	54 FR 38073	7/1/2001	2/12/1999	64 FR 7467		
N	Inorganic Arsenic Emissions from Glass Manufacturing Plants	0	8/4/1986	51 FR 28025	7/1/2001	2/12/1999	64 FR 7467		
O	Inorganic Arsenic Emissions from Primary Copper Smelters	0	8/4/1986	51 FR 28029	7/1/2001	5/31/1990	55 FR 22027		
P	Inorganic Arsenic Emissions from Arsenic Trioxide and Metal Arsenic Facilities	0	8/4/1986	51 FR 28033	7/1/2001	10/3/1986	51 FR 35355		
V	Equipment Leaks (Fugitive Emission Sources)	0	6/6/1984	49 FR 23513	7/1/2001	12/14/2000	65 FR 78280		
Y	Benzene Emissions from Benzene Storage Vessels	0	9/14/1989	54 FR 38077	7/1/2001	12/14/2000	65 FR 78283		
FF	Benzene Waste Operations	0	3/7/1990	55 FR 8346	7/1/2001	1/7/1993	58 FR 3095		
PART 63									
A	General Provisions	N/A	3/16/1994	59 FR 12430	7/1/2001	10/17/2000	65 FR 62215	2/14/2002	67 FR 6986
								2/27/2002	67 FR 9162
								4/5/2002	67 FR 16595
								6/10/2002	67 FR 39811
F	Synthetic Organic Chemical Manufacturing Industry (SOCMI)	0	4/22/1994	59 FR 19454	7/1/2001	1/22/2001	66 FR 6927		

Attachment F
NESHAPs Delegation Table

Subpart	Source Category	Oregon Affected Sources	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
						Covered EPA Revisions Through			
			Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
G	SOCMI - Process Vents, Storage Vessels, Transfer Operations, and Wastewater	0	4/22/1994	59 FR 19468	7/1/2001	1/22/2001	66 FR 6929		
H	SOCMI - Equipment Leaks	0	4/22/1994	59 FR 19568	7/1/2001	1/22/2001	66 FR 6936		
I	Certain Processes Subject to the Negotiated Regulations for Equipment Leaks	0	4/22/1994	59 FR 19587	7/1/2001	1/17/1997	62 FR 2792		
L	Coke Oven Batteries	0	10/27/1993	58 FR 57911	7/1/2001	10/17/2000	65 FR 62215		
M	Perchloroethylene Dry Cleaning*	319	9/22/1993	58 FR 49376	7/1/2001	12/14/1999	64 FR 69643		
N	Hard and Decorative Chromium Electroplating and Chromium Anodizing*	23	1/25/1995	60 FR 4963	7/1/2001	12/14/1999	64 FR 69643		
O	Ethylene Oxide Sterilization*	1	12/6/1994	59 FR 62589	7/1/2001	12/14/1999	64 FR 69643	11/2/2001	66 FR 55582
Q	Industrial Process Cooling Towers	0	9/8/1994	59 FR 46350	7/1/2001	7/23/1998	63 FR 39519		
R	Gasoline Distribution Facilities	0	12/14/1994	59 FR 64318	7/1/2001	1/16/1998	63 FR 2630		
S	Pulp and Paper Industry	5	4/15/1998	63 FR 18616	7/1/2001	5/14/2001	66 FR 24269		
T	Halogenated Solvent Cleaning*	17	12/2/1994	59 FR 61805	7/1/2001	9/8/2000	65 FR 54422		
U	Group I Polymers and Resins	0	9/5/1996	61 FR 46924	7/1/2001	6/30/1999	64 FR 35028	7/16/2001	66 FR 36927
W	Epoxy Resins Production and Non-Nylon Polyamides Production	0	3/8/1995	60 FR 12676	7/1/2001	7/6/2000	65 FR 41594		
X	Secondary Lead Smelting*	0	6/23/1995	60 FR 32594	7/1/2001	12/14/1999	64 FR 69643		
Y	Marine Tank Loading Operations	0	9/15/1995	60 FR 48399	7/1/2001				
AA	Phosphoric Acid Manufacturing	0	6/10/1999	64 FR 31376	7/1/2001			12/17/2001	66 FR 65076
								6/12/2002	67 FR 40579
								6/13/2002	67 FR 40817
BB	Phosphate Fertilizer Production	0	6/10/1999	64 FR 31382	7/1/2001			12/17/2001	66 FR 65077
								6/13/2002	67 FR 40817
CC	Petroleum Refineries	0	8/18/1995	60 FR 43260	7/1/2001	7/6/2000	65 FR 41594		
DD	Off-Site Waste and Recovery	0	7/1/1996	61 FR 34158	7/1/2001	1/8/2001	66 FR 1266		
EE	Magnetic Tape Manufacturing	0	12/15/1994	59 FR 64596	7/1/2001	4/9/1999	64 FR 17464		

Attachment F
NESHAPs Delegation Table

Subpart	Source Category	Oregon Affected Sources	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
						Covered EPA Revisions Through			
			Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
GG	Aerospace Manufacturing and Rework	0	9/1/1995	60 FR 45956	7/1/2001	12/8/2000	65 FR 76945		
HH	Oil and Natural Gas Production	0	6/17/1999	64 FR 32628	7/1/2001	6/29/2001	66 FR 34550		
II	Shipbuilding and Ship Repair (Surface Coating)	2	12/15/1995	60 FR 64336	7/1/2001	10/17/2000	65 FR 62215		
JJ	Wood Furniture Manufacturing	8	12/7/1995	60 FR 62936	7/1/2001	12/28/1998	63 FR 71380		
KK	Printing and Publishing	1	5/30/1996	61 FR 27140	7/1/2001				
LL	Primary Aluminum Reduction	2	10/7/1997	62 FR 52407	7/1/2001				
MM	Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills	5	1/12/2001	66 FR 3193	7/1/2001			7/19/2001	66 FR 37593
OO	Tanks - Level 1	N/A	7/1/1996	61 FR 34184	7/1/2001	7/20/1999	64 FR 38985		
PP	Containers	N/A	7/1/1996	61 FR 34186	7/1/2001	1/8/2001	66 FR 1267		
QQ	Surface Impoundments	N/A	7/1/1996	61 FR 34190	7/1/2001	7/20/1999	64 FR 38988		
RR	Individual Drain Systems	N/A	7/1/1996	61 FR 34193	7/1/2001	1/8/2001	66 FR 1267		
SS	Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a	N/A	6/29/1999	64 FR 34866	7/1/2001	11/22/1999	64 FR 63704		
TT	Equipment Leaks - Control Level 1	N/A	6/29/1999	64 FR 34886	7/1/2001	11/22/1999	64 FR 63705		
UU	Equipment Leaks - Control Level 2	N/A	6/29/1999	64 FR 34899	7/1/2001	11/22/1999	64 FR 63706		
VV	Oil-Water Separators and Organic-Water Separators	N/A	7/1/1996	61 FR 34195	7/1/2001	1/8/2001	66 FR 1268		
WW	Storage Vessels (Tanks) - Control Level 2	N/A	6/29/1999	64 FR 34918	7/1/2001				
YY	Generic MACT	0	6/29/1999	64 FR 34921	7/1/2001	12/22/1999	64 FR 71852	11/2/2001	66 FR 55847
								6/7/2002	67 FR 39305
CCC	Steel Pickling-HCl Process Facilities and Hydrochloric Acid Regeneration Plants	0	6/22/1999	64 FR 33218	7/1/2001				
DDD	Mineral Wool Production	0	6/1/1999	64 FR 29503	7/1/2001				
EEE	Hazardous Waste Combustors*	2	6/19/1998	63 FR 33820	7/1/2001	5/1/2001	66 FR 24272	7/3/2001	66 FR 35103
								10/15/2001	66 FR 52362
								12/6/2001	66 FR 63317
								2/13/2002	67 FR 6809
								2/14/2002	67 FR 6986

Attachment F
NESHAPs Delegation Table

Subpart	Source Category	Oregon Affected Sources	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
						Covered EPA Revisions Through			
			Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
GGG	Pharmaceuticals Production	0	9/21/1998	63 FR 50326	7/1/2001	8/29/2000	65 FR 52596	8/2/2001	66 FR 40130
								4/2/2002	67 FR 15486
HHH	Natural Gas Transmission and Storage Facilities	0	6/17/1999	64 FR 32647	7/1/2001	6/29/2001	66 FR 34555	9/27/2001	66 FR 49300
								2/22/2002	67 FR 8204
III	Flexible Polyurethane Foam Production	0	10/7/1998	63 FR 53996	7/1/2001				
JJJ	Group IV Polymers and Resins	0	9/12/1996	61 FR 48229	7/1/2001	2/26/2001	66 FR 11236	7/16/2001	66 FR 36937
								8/6/2001	66 FR 40907
LLL	Portland Cement Manufacturing*	1	6/14/1999	64 FR 31925	7/1/2001	9/30/1999	64 FR 53070	4/5/2002	67 FR 16619
MMM	Pesticide Active Ingredient Production	0	6/23/1999	64 FR 33589	7/1/2001			11/21/2001	66 FR 58396
								11/21/2001	66 FR 58399
								3/22/2002	67 FR 13511
								3/22/2002	67 FR 13515
								5/1/2002	67 FR 21579
								6/3/2002	67 FR 38203
NNN	Wool Fiberglass Manufacturing	0	6/14/1999	64 FR 31708	7/1/2001				
OOO	Manufacture of Amino/Phenolic Resins	1	1/20/2000	65 FR 3290	7/1/2001				
PPP	Polyether Polyols Production	0	6/1/1999	64 FR 29439	7/1/2001	7/6/2000	65 FR 41594		
QQQ	**Primary Copper**	0	6/12/2002	67 FR 40491					
RRR	Secondary Aluminum Production*	6	3/23/2000	65 FR 15689	7/1/2001			6/14/2002	67 FR 41122
TTT	Primary Lead Smelting	0	6/4/1999	64 FR 30204	7/1/2001				
UUU	**Petroleum Refineries-Catalytic Cracking, Catalytic Reforming & Sulfur Recovery**	0	4/11/2002	67 FR 17773					
VVV	Publicly Owned Treatment Works	0	10/26/1999	64 FR 57579	7/1/2001				
XXX	Ferroalloys Production: Ferromanganese and Silicomanganese	0	5/20/1999	64 FR 27458	7/1/2001	3/22/2001	66 FR 16012		
CCCC	Manufacturing Nutritional Yeast	0	5/21/2001	66 FR 27884	7/1/2001				
GGGG	Solvent Extraction for Vegetable Oil Production	0	4/12/2001	66 FR 19011	7/1/2001			4/5/2002	67 FR 16321

Subpart	Source Category	Oregon Affected Sources	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
						Covered EPA Revisions Through			
			Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
HHHH	**Wet Formed Fiberglass Mat Production**	0	4/11/2002	67 FR 17835					
SSSS	**Metal Coil**	0	6/10/2002	67 FR 39812					
TTTT	**Leather Finishing Operations**	0	2/27/2002	67 FR 9162					
UUUU	**Cellulose Production Manufacturing**	0	6/11/2002	67 FR 40055					
VVVV	**Boat Manufacturing**	5	8/22/2001	66 FR 44232				10/3/2001	66 FR 50504

NESHAPs not currently adopted by the Department in bold, all others are existing NESHAPs that will be amended.
* Applies to area and major sources
Through 7/1/2001

Attachment G
NSPS Delegation Table

Subpart	Source Category	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
					Covered EPA Revisions Through			
		Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
A	General Provisions	12/23/1971	36 FR 24877	7/1/2000	2/12/1999	64 FR 7463	8/10/2000	65 FR 48920
							10/17/2000	65 FR 61749
							12/14/2000	65 FR 78275
							8/10/2000	65 FR 48920
							12/6/2000	65 FR 76355
							12/6/2000	65 FR 76383
							2/6/2001	66 FR 9034
							8/27/2001	66 FR 44980
D	Fossil-Fuel-Fired Steam Generators	6/14/1974	39 FR 20791	7/1/2000	9/24/1996	61 FR 49976	10/17/2000	65 FR 61752
Da	Electric Utility Steam Generating Units	6/11/1979	44 FR 33613	7/1/2000	2/12/1999	64 FR 7464	10/17/2000	65 FR 61752
							4/10/2001	66 FR 18551
							6/11/2001	66 FR 31178
							8/14/2001	66 FR 42610
Db	Industrial-Commercial-Institutional Steam Generating Units	12/16/1987	52 FR 47842	7/1/2000	3/13/2000	65 FR 13243	10/17/2000	65 FR 61752
							4/10/2001	66 FR 18553
							8/14/2001	66 FR 42610
							10/1/2001	66 FR 49834
Dc	Small Industrial-Commercial-Institutional Steam Generating Units	9/12/1990	55 FR 37683	7/1/2000	2/12/1999	64 FR 7465	10/17/2000	65 FR 61752
E	Incinerators	12/23/1971	36 FR 24877	7/1/2000	2/14/1990	55 FR 5212	10/17/2000	65 FR 61753
Ea	Municipal Waste Combustors Constructed After 12/20/89 and on or Before 9/20/94	2/11/1991	56 FR 5507	7/1/2000	2/12/1999	64 FR 7465	10/17/2000	65 FR 61753
Eb	Municipal Waste Combustors Constructed After 9/20/94	12/19/1995	60 FR 65419	7/1/2000	8/25/1997	62 FR 45120	10/17/2000	65 FR 61753
							7/12/2001	66 FR 36476
							11/16/2001	66 FR 57827
Ec	Hospital/Medical/Infectious Waste Incinerators Constructed After 6/20/96 or Modified After 3/16/98	9/15/1997	62 FR 48382	7/1/2000			10/17/2000	65 FR 61753
F	Portland Cement Plants	6/14/1974	39 FR 20793	7/1/2000	2/14/1989	54 FR 6666	10/17/2000	65 FR 61753
G	Nitric Acid Plants	6/14/1974	39 FR 20794	7/1/2000	2/14/1989	54 FR 6666		
H	Sulfuric Acid Plants	12/23/1971	36 FR 24877	7/1/2000	2/14/1989	54 FR 6666	10/17/2000	65 FR 61753
I	Hot Mix Asphalt Facilities	3/8/1974	39 FR 9314	7/1/2000	2/14/1989	54 FR 6667		
J	Petroleum Refineries	3/8/1974	39 FR 9315	7/1/2000	2/12/1999	64 FR 7465	10/17/2000	65 FR 61753
K	Storage Vessels for Petroleum Liquids Constructed, Reconstructed, Modified After 6/11/73 and Prior to 5/19/78	3/8/1974	39 FR 9317	7/1/2000	4/8/1987	52 FR 11429	10/17/2000	65 FR 61755
Ka	Storage Vessels for Petroleum Liquids Constructed, Reconstructed, Modified After 5/18/78 and Prior to 7/23/84	4/4/1980	45 FR 23379	7/1/2000	4/8/1987	52 FR 11429	10/17/2000	65 FR 61756
							12/14/2000	65 FR 78275
Kb	Volatile Organic Liquid Storage Vessels Constructed After 7/23/84	4/8/1987	52 FR 11429	7/1/2000	10/8/1997	62 FR 52641	10/17/2000	65 FR 61756
							12/14/2000	65 FR 78275

Subpart	Source Category	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
					Covered EPA Revisions Through			
		Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
L	Secondary Lead Smelters	3/8/1974	39 FR 9317	7/1/2000	2/14/1989	54 FR 6667	10/17/2000	65 FR 61756
M	Secondary Brass and Bronze Production Plants	3/8/1974	39 FR 9318	7/1/2000	2/14/1989	54 FR 6667	10/17/2000	65 FR 61756
N	Primary Emissions from Basic Oxygen Process Furnaces Constructed After 6/11/73	3/8/1974	39 FR 9318	7/1/2000	2/14/1989	54 FR 6667	10/17/2000	65 FR 61756
Na	Secondary Emissions from Basic Oxygen Process Steelmaking Furnaces Constructed After 1/20/83	1/2/1986	51 FR 161	7/1/2000	1/14/1989	54 FR 6667	10/17/2000	65 FR 61756
O	Sewage Treatment Plants	3/8/1974	39 FR 9319	7/1/2000	2/3/1994	59 FR 5108	10/17/2000	65 FR 61756
P	Primary Copper Smelters	1/15/1976	41 FR 2338	7/1/2000	2/14/1989	54 FR 6668	10/17/2000	65 FR 61756
Q	Primary Zinc Smelters	1/15/1976	41 FR 2340	7/1/2000	2/14/1989	54 FR 6668		
R	Primary Lead Smelters	1/15/1976	41 FR 2340	7/1/2000	2/14/1989	54 FR 6668		
S	Primary Aluminum Reduction Plants	7/25/1977	42 FR 37937	7/1/2000	10/7/1997	62 FR 52399	10/17/2000	65 FR 61757
T	Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants	8/6/1975	40 FR 33154	7/1/2000	2/14/1989	54 FR 6669	10/17/2000	65 FR 61757
U	Phosphate Fertilizer Industry: Superphosphoric Acid Plants	8/6/1975	40 FR 33155	7/1/2000	2/14/1989	54 FR 6670	10/17/2000	65 FR 61757
V	Phosphate Fertilizer Industry: Diammonium Phosphate Plants	8/6/1975	40 FR 33155	7/1/2000	2/14/1989	54 FR 6670	10/17/2000	65 FR 61757
W	Phosphate Fertilizer Industry: Triple Superphosphate Plants	8/6/1975	40 FR 33156	7/1/2000	5/17/1989	54 FR 21344	10/17/2000	65 FR 61757
X	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities	8/6/1975	40 FR 33156	7/1/2000	2/14/1989	54 FR 6671	10/17/2000	65 FR 61757
Y	Coal Preparation Plants	1/15/1976	41 FR 2234	7/1/2000	2/14/1989	54 FR 6671	10/17/2000	65 FR 61757
Z	Ferroalloy Production Facilities	5/4/1976	41 FR 18501	7/1/2000	2/14/1990	55 FR 5212	10/17/2000	65 FR 61758
AA	Steel Plants: Electric Arc Furnaces Constructed After 10/21/74 and on or Before 8/17/83	9/23/1975	40 FR 43852	7/1/2000	3/2/1999	64 FR 10109	10/17/2000	65 FR 61758
AAa	Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After 8/7/83	10/31/1984	49 FR 43845	7/1/2000	3/2/1999	64 FR 10110	10/17/2000	65 FR 61758
BB	Kraft Pulp Mills	2/23/1978	43 FR 7572	7/1/2000	2/14/1990	55 FR 5212	10/17/2000	65 FR 61758
CC	Glass Manufacturing Plants	10/7/1980	45 FR 66751	7/1/2000	2/12/1999	64 FR 7466	10/17/2000	65 FR 61759
DD	Grain Elevators	8/3/1978	43 FR 34347	7/1/2000	2/14/1989	54 FR 6674	10/17/2000	65 FR 61759
EE	Surface Coating of Metal Furnature	10/29/1982	47 FR 49287	7/1/2000	12/13/1990	55 FR 51383	10/17/2000	65 FR 61759
GG	Stationary Gas Turbines	9/10/1979	44 FR 52798	7/1/2000	6/27/1989	54 FR 27016	10/17/2000	65 FR 61759

Subpart	Source Category	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
					Covered EPA Revisions Through			
		Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
HH	Lime Manufacturing Plants	4/26/1984	49 FR 18080	7/1/2000	2/14/1989	54 FR 6675	10/17/2000	65 FR 61760
KK	Lead-Acid Battery Manufacturing Plants	4/16/1982	47 FR 16573	7/1/2000	2/14/1989	54 FR 6675	10/17/2000	65 FR 61760
LL	Metallic Mineral Processing Plants	2/21/1984	49 FR 6464	7/1/2000	2/14/1989	54 FR 6676	10/17/2000	65 FR 61760
MM	Automobile and Light-Duty Truck Surface Coating Operations	12/24/1980	45 FR 85415	7/1/2000	10/11/1994	59 FR 51386	10/17/2000	65 FR 61760
NN	Phosphate Rock Plants	4/16/1982	47 FR 16589	7/1/2000	2/12/1999	64 FR 7466	10/17/2000	65 FR 61760
PP	Ammonium Sulfate Manufacture	11/12/1980	45 FR 74850	7/1/2000	2/14/1989	54 FR 6676	10/17/2000	65 FR 61760
QQ	Graphic Arts Industry: Publication Rotogravure Printing	11/8/1982	47 FR 50649	7/1/2000			10/17/2000	65 FR 61761
RR	Pressure Sensitive Tape and Label Surface Coating Operations	10/18/1983	48 FR 48375	7/1/2000	12/13/1990	55 FR 51383	10/17/2000	65 FR 61761
SS	Industrial Surface Coating: Large Appliances	10/27/1982	47 FR 47785	7/1/2000	12/13/1990	55 FR 51383	10/17/2000	65 FR 61761
TT	Metal Coil Surface Coating	11/1/1982	47 FR 49612	7/1/2000	5/31/1991	56 FR 20497	10/17/2000	65 FR 61761
UU	Asphalt Processing and Asphalt Roofing Manufacture	8/6/1982	47 FR 34143	7/1/2000	6/27/1989	54 FR 34143	10/17/2000	65 FR 61762
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	10/18/1983	48 FR 48335	7/1/2000	6/12/1996	61 FR 29878	10/17/2000	65 FR 61762
							12/14/2000	65 FR 78276
WW	Beverage Can Surface Coating Industry	8/25/1983	48 FR 38737	7/1/2000	12/13/1990	55 FR 51384	10/17/2000	65 FR 61763
XX	Bulk Gasoline Terminals	8/18/1983	48 FR 37590	7/1/2000	2/12/1999	64 FR 7466	10/17/200	65 FR 61763
AAA	Residential Wood Heaters	2/26/1988	53 FR 5873	7/1/2000	2/12/1999	64 FR 7466	10/17/2000	65 FR 61763
BBB	Rubber Tire Manufacturing Industry	9/15/1987	52 FR 34874	7/1/2000	9/19/1989	54 FR 38635	10/17/2000	65 FR 61764
DDD	VOC Emissions from the Polymer Manufacture Industry	12/11/1990	55 FR 51035	7/1/2000	3/9/1999	64 FR 11541	10/17/2000	65 FR 61765
							12/14/2000	65 FR 78278
FFF	Flexible Vinyl and Urethane Coating and Printing	6/29/1984	49 FR 26892	7/1/2000	8/17/1984	49 FR 32848	10/17/2000	65 FR 61768
GGG	Equipment Leaks of VOC in Petroleum Refineries	5/30/1984	49 FR 22606	7/1/2000			10/17/2000	65 FR 61768
HHH	Synthetic Fiber Production Facilities	4/5/1984	49 FR 13651	7/1/2000	6/23/1994	49 FR 18096	10/17/2000	65 FR 61768
III	VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes	6/29/1990	55 FR 26922	7/1/2000	9/7/1990	55 FR 36932	10/17/2000	65 FR 61769
							12/14/2000	65 FR 78278
JJJ	Petroleum Dry Cleaners	9/21/1984	49 FR 37331	7/1/2000	11/27/1985	50 FR 49026	10/17/2000	65 FR 61773
KKK	Equipment Leaks of VOC from Onshore Natural Gas Processing Plants	6/24/1985	50 FR 26124	7/1/2000	1/21/1986	51 FR 2702	10/17/2000	65 FR 61773
LLL	Onshore Natural Gas Processing; SO_2 Emissions	10/1/1985	50 FR 40160	7/1/2000	2/14/1989	54 FR 6679	10/17/2000	65 FR 61773
NNN	VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Distillation Operations	6/29/1990	55 FR 26842	7/1/2000	11/27/1995	60 FR 58237	10/17/2000	65 FR 61774
							12/14/2000	65 FR 78279
OOO	Nonmetallic Mineral Processing Plants	8/1/1985	51 FR 31337	7/1/2000	6/9/1997	62 FR 31359	10/17/2000	65 FR 61778
PPP	Wool Fiberglass Insulation Manufacturing Plants	2/25/1995	50 FR 7699	7/1/2000	2/14/1989	54 FR 6680	10/17/2000	65 FR 61778
QQQ	VOC Emissions from Petroleum Refinery Wastewater Systems	11/23/1985	53 FR 47623	7/1/2000	8/18/1995	60 FR 43259	10/17/2000	65 FR 61778

Subpart	Source Category	EPA Promulgated		Last DEQ Adoption			Subsequent EPA Revisions	
					Covered EPA Revisions Through			
		Date	FR Citation	Date	Date	FR Citation	Date	FR Citation
RRR	VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Distillation Operations	8/31/1993	58 FR 45962	7/1/2000	11/27/1995	60 FR 58238	10/17/2000	65 FR 61778
							12/14/2000	65 FR 78279
SSS	Magnetic Tape Coating Facilities	10/3/1988	53 FR 38914	7/1/2000	2/12/1999	64 FR 7467		
TTT	Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	1/29/1988	53 FR 2676	7/1/2000	6/15/1989	54 FR 25459	10/17/2000	65 FR 61778
UUU	Calciners and Dryers in Mineral Industries	9/28/1992	57 FR 44503	7/1/2000	7/29/1993	58 FR 40591	10/17/2000	65 FR 61778
VVV	Polymetric Coating of Supporting Substrates Facilities	9/11/1989	54 FR 37551	7/1/2000				
WWW	Municipal Solid Waste Landfills	3/12/1996	61 FR 9919	7/1/2000	4/10/2000	65 FR 18908	10/17/2000	65 FR 61778
AAAA	**Small Waste Combustion Units**	12/6/2000	65 FR 76355					
CCCC	**Commercial and Industrial Solid Waste Incineration Units**	12/1/2000	65 FR 75350				3/27/2001	66 FR 16606

Emission Guidelines:

Cb Large Municipal Waste Combustors - Constructed on or Before 9/20/94 (Adopted in 340-230-0300)
Cc Municipal Solid Waste Landfills (Adopted in 340-230-0500 through 7/1/98)
Cd Sulfuric Acid Production Units
Ce Hospital/Medical/Infectious Waste Incinerators (Adopted in 340-230-0400)
BBBB **Existing Small Municipal Waste Combustion Units** (Promulgated 12/6/00)
DDDD **Commercial and Industrial Solid Waste Incineration Units** (Promulgated 12/1/00)

NSPS and emission guidelines not currently adopted by the Department in bold, all others are existing NSPS that will be amended.

ATTACHMENT H
Air Quality Program Statutory Overview

	Federal Lead	Federal Delegated	EPA Approved State Efforts	State Initiative
Ambient Air Quality Protection	• National Ambient Air Quality Standards (CAA § 109) • National Engine and Fuel Standards (CAAA Title II)	• New Source Performance Standards (CAA § 111; ORS 468A.025)	• Attainment and maintenance Plan SIPs (CAA §110 & Title1, part D; ORS 468A.035) • SIP Control Strategies (CAA §110), e.g.: o Air Contaminant Discharge Permit (ACDP) (ORS 468A.040-060) o Major New Source Review (ORS 468A.025) o Vehicle Inspection Program (ORS 468A.350-455) o Employee commute Options (ORS 468A363) o Woodstove Curtailment (ORS 468A.460-520) o Reasonably Available Control Technology (ORS 468A.025 • Federal Operating Permit (CAA Title V; ORS 468A.300-330)	• Oregon Ambient Air Quality Standards (Particle fallout, Calcium Oxide, Sulfur Dioxide) (ORS 468A.025) • Growth allowances (ORS 468A.035)
Prevention of Clean Air Quality Degradation and Visibility Protection	• Class I & II increments (CAA Title 1, Part C) • National Engine and Fuel Standards (CAA Title II)	• New Source Performance Standards (NSPS) (CAA § 111; ORS 468A.025)	• Visibility and Regional Haze SIPS (CAA Title I, Part C) • SIP Control Strategies (CAA § 110) e.g.: o Smoke Management, Field Burning, Open Burning (ORS 468A.550-620) o Major New Source Review/PSD (ORS 468A.025) o Air Contaminant Discharge Permit (ACDP) (ORS 468A.040-060) • Emission Guidelines (CAA §111d; ORS 468A.025) • Federal Operating Permit (Title V; ORS 468A.300-330)	• Prevention Plans (ORS 468A.035) • Columbia River Gorge Air Quality Protection (ORS 468A.025) • Nuisance, Odors, Best Work Practices Agreement (ORS 468A.025)
Air Toxics	• List of HAPs (CAA §111b) and source categories (CAA §111c) • Accidental Releases (CAA §111r) • National Fuel Standards (CAA Title II)	• National Emissions Standards for Hazardous Air Pollutants (NESHAP) (CAA §112d; ORS 468A.025) • Urban Air Toxics (CAA §112k; ORS 468A.025)	• Case by Case MACT (CAA §112g; ORS 468A.025) • "MACT Hammer" (CAA §112j; ORS 468A.025) • Urban Air Toxics (CAA §112k; ORS 468A.025) • Federal Operating Permit (CAA Title V; ORS 468A.300-330) • Air Contaminant Discharge Permit (ORS 468A.040-060)	• State Air Toxics Program (ORS 468A.025) • Clean Diesel Initiative
Asbestos		• Asbestos NESHAP (§112; ORS 468A.025 & 468A.700)		• Asbestos Abatement (ORS 468A.700-760)
Acid Rain	• Emission trading (CAA Title IV)		• Federal Operating Permit (Title V: ORS 468A.300-330)	
Stratospheric Ozone Protection	• Chlorofluorocarbon phase-out (CAA Title VI)		• Federal Operating Permit (CAAS Title V: ORS 468A.300-330)	• Chlorofluorocarbon, Halogen and Aerosol Control (ORS 468A625-645)
Climate Protection	• Energy Star/voluntary programs			• Oregon Office of Energy • STAPPA/ALAPCO Harmonizing Air Quality and Climate Protection

11/03 - EQC Meeting, Item J Handout

Sufficiency Analysis:

A statewide evaluation of Forest Practices Act effectiveness in protecting water quality

"STEWARDSHIP IN FORESTRY"

ODF Forest Practices &
DEQ Water Quality Division

Forestry Efforts to Date

State and Private industrial forestlands (1997-2001):

- $70+ million spent on 4,000+ habitat restoration projects
- 16,000+ miles of forest roads surveyed
- 2500 miles of road improvements
- 1000+ stream crossings and culverts improved for fish passage

Source: OWEB

April 1998 ODF/DEQ Memorandum of Understanding

- Overall purpose: To determine the adequacy of the FPA in the achievement and maintenance of water quality standards.

- April 1998 MOU: Describes the Sufficiency Analysis process

April 1998 ODF/DEQ Memorandum of Understanding

- Water quality parameters where impairment *can be attributed* to forest management:

  temperature

  sedimentation

  turbidity

  aquatic habitat modification

  bio-criteria

April 1998 ODF/DEQ Memorandum of Understanding

- Water quality impairment related to these other parameters is generally *not attributable* to forest management practices as regulated by the EPA :

aquatic weeds	flow modification
bacteria	nutrients
chlorophyll a	total dissolved gas
dissolved oxygen	toxics

Adequacy Determinations

- The achievement of FPA goals will ensure the achievement and maintenance of water quality goals.

- If current practices are meeting FPA objectives and goals, state water quality standards are met as well.

FPA Administrative Rules

- Road Construction and Maintenance Rules (OARs 629-625)
- Harvesting Rules (OARs 629-630)
- Water Protection Rules (OARs 629-640)

Water Protection Rules

Summary of stream sizes and types, and RMA widths and retention requirements under the Water Protection Rules (basal area expressed as numbers of 14″ trees)

	Type F*	Type D*	Type N*
LARGE (>12ft)	100-foot RMA: 170 to 350 14″ trees/1000 ft	70-foot RMA: 70 to 160 14″ trees/1000 ft	70-foot RMA: 70 to 160 14″ trees/1000 ft
MEDIUM (7-12 ft)	70-foot RMA: 90 to 180 14″ trees/1000 ft	50-foot RMA: 50 to 60 14″ trees/1000 ft	50-foot RMA: 50 to 60 14″ trees/1000 ft
SMALL (<7 ft)	50-foot RMA: 40 to 50 14″ trees/1000 ft	20-feet RMA: No harvest	Protection of bed and banks (statewide). Retain small trees and shrubs within 10 feet of some or all portions of perennial streams (except for Coast Range and Western Cascades).

*The first 20 feet of the RMA is a 'no touch' area, and applies to all streams except small Type N.

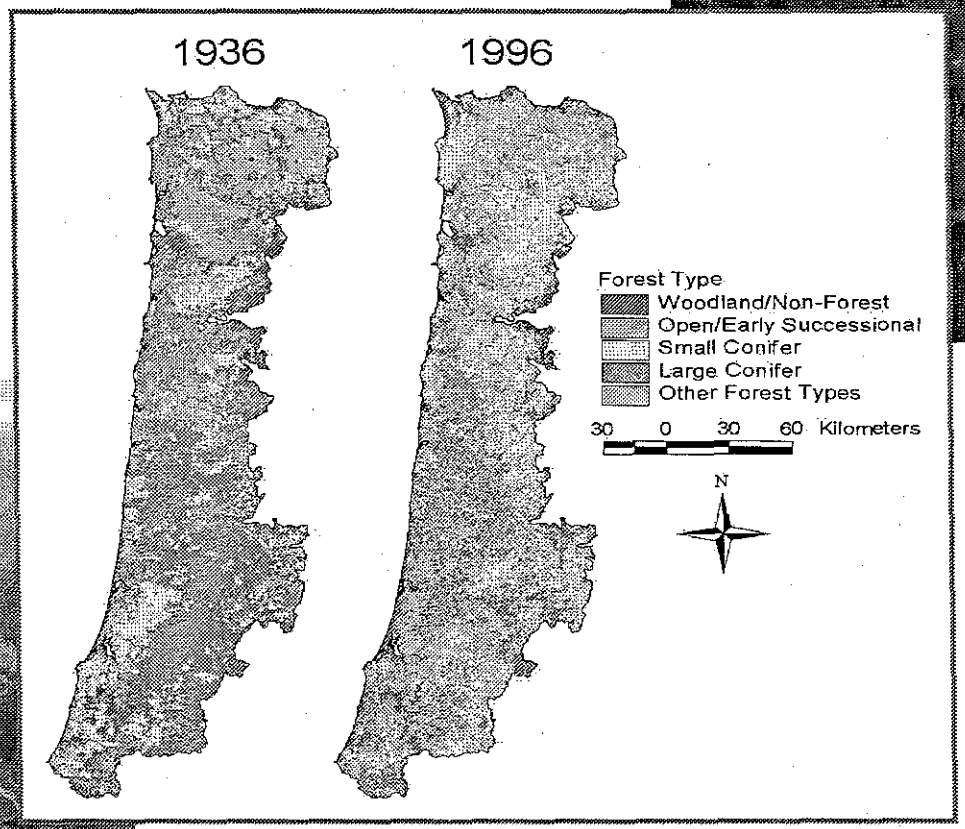
Evaluation: Temperature

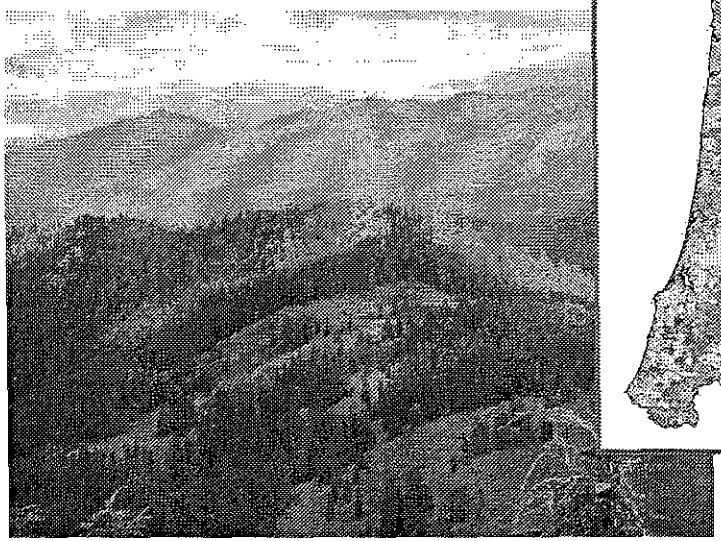
- Evaluated at three scales:
  - *Landscape*
  - *Site-specific*
  - *Watershed (or sub-basin)*

Evaluation: Temperature

- ***Landscape scale:***

  Current practices are likely sufficient due to increased shade levels relative to historic.





Evaluation: Temperature

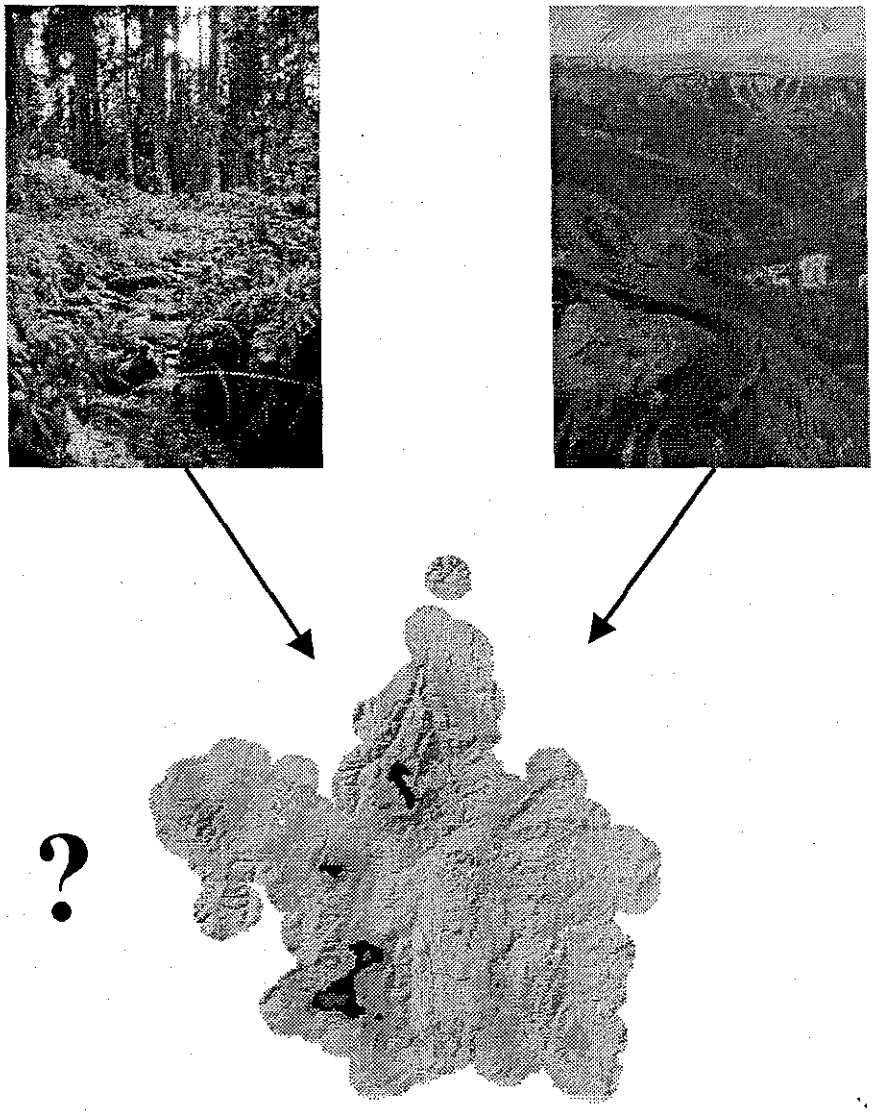
- ***Site-specific scale:***
  - Sufficient for large Type F streams
  - Some medium and small Type F, and small Type Ns that could influence Type F: Some risk exists

Evaluation: Temperature

- ***Watershed scale***:

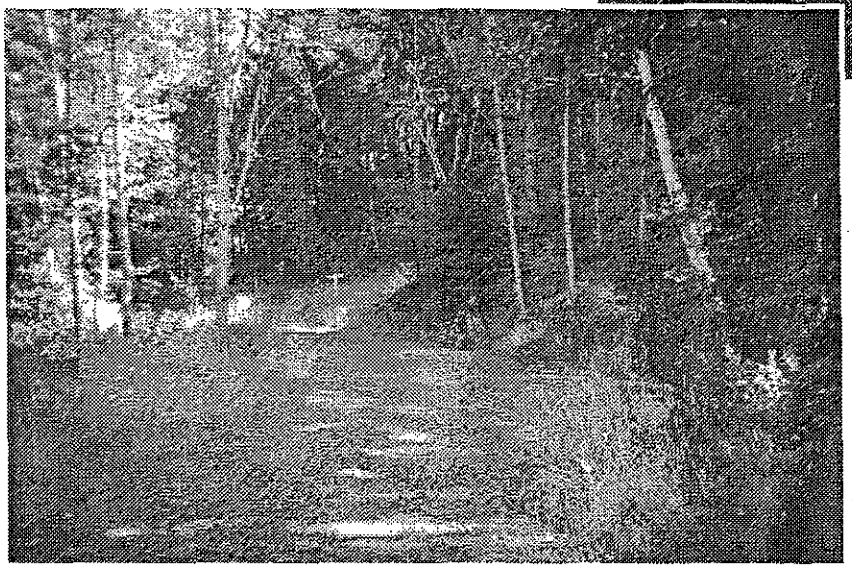
  Uncertainty.

  Relative to historical conditions, landscape/site-specific interactions could result in higher, unchanged or lower temperatures on streams with short-term, post-harvest shade reductions.



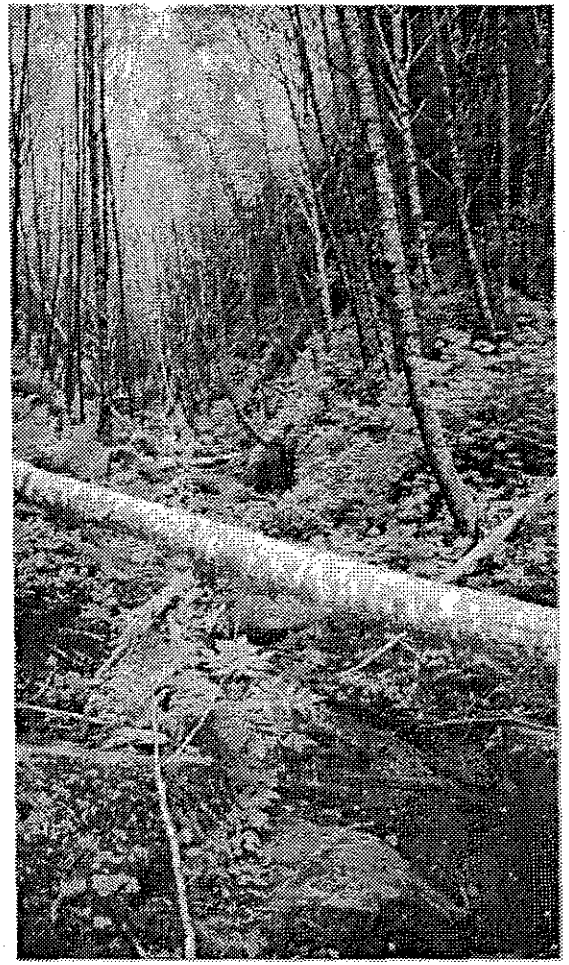
Evaluation: Sedimentation & Turbidity

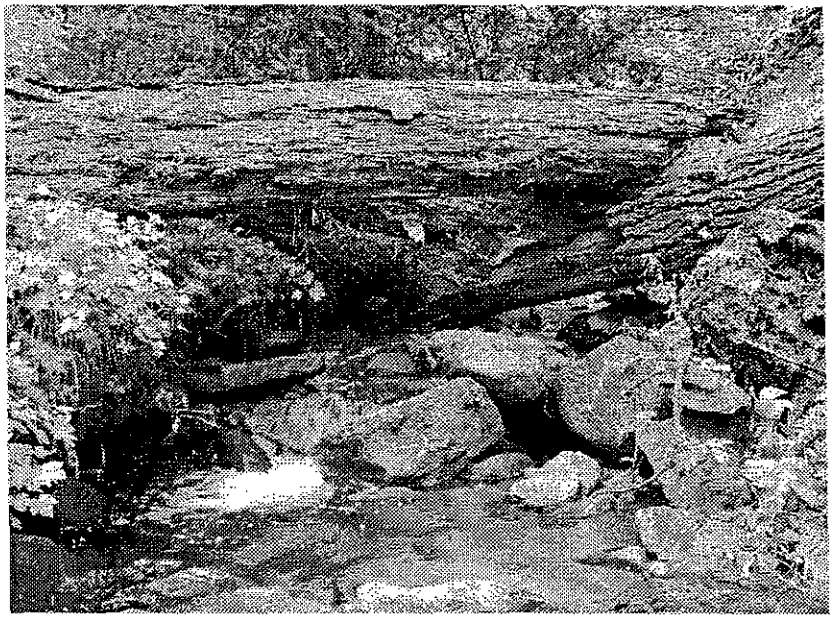
- BMPs are sufficient
  - Wet-weather hauling and other issues addressed in recent rule changes.



Evaluation: Habitat modification

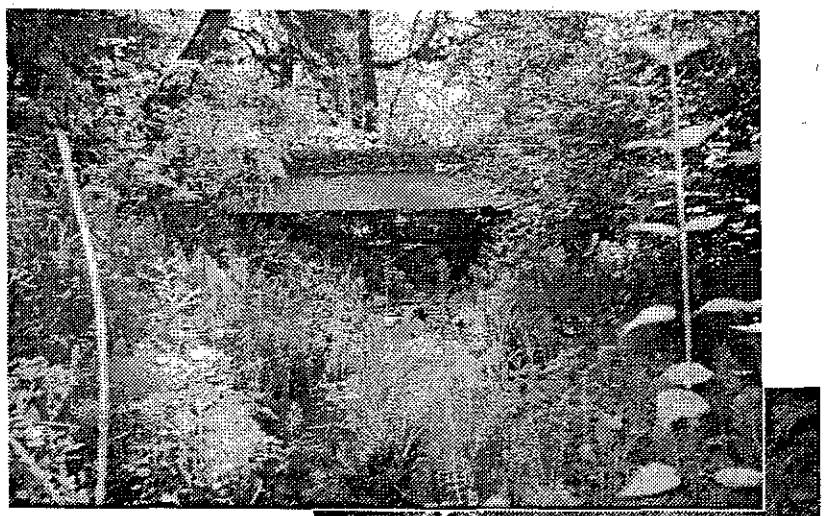
- ***Large Type Fs***: Sufficient
- ***Some medium and small Type Fs***: Risk of not meeting rule objectives relative to large wood potential.
- ***Some Type Ns***: Large wood potential delivered by debris torrents to Type F streams may be less than optimal.

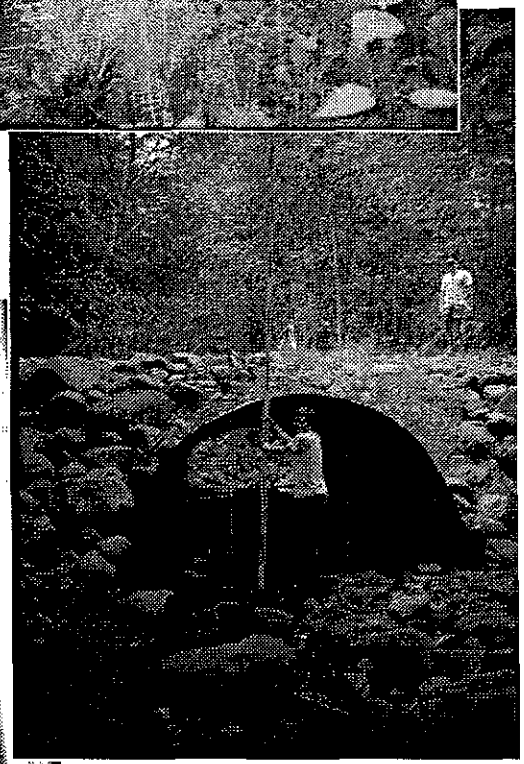




Evaluation: Habitat modification

- ***Fish passage:***
  Current guidelines result in a high likelihood of fish passage.





Evaluation: Biological Criteria

- To the extent that other parameters are being met, this parameter is likely to be met as well.

General Recommendations

- Large wood potential along medium and small fish streams
- Small Type N streams that influence Type F streams
- Active large wood placement
- Road maintenance and construction: wet-weather hauling, cross drainage, critical road locations, and steep-sloped ground-based yarding (✓)
- Appropriate management of high landslide hazard locations (✓)

General Recommendations (cont.)

- Large wood and debris passage at road crossings
- Riparian functions upstream of artificial fish barriers
- Culvert replacement incentives
- Fish stream classification based on physical habitat

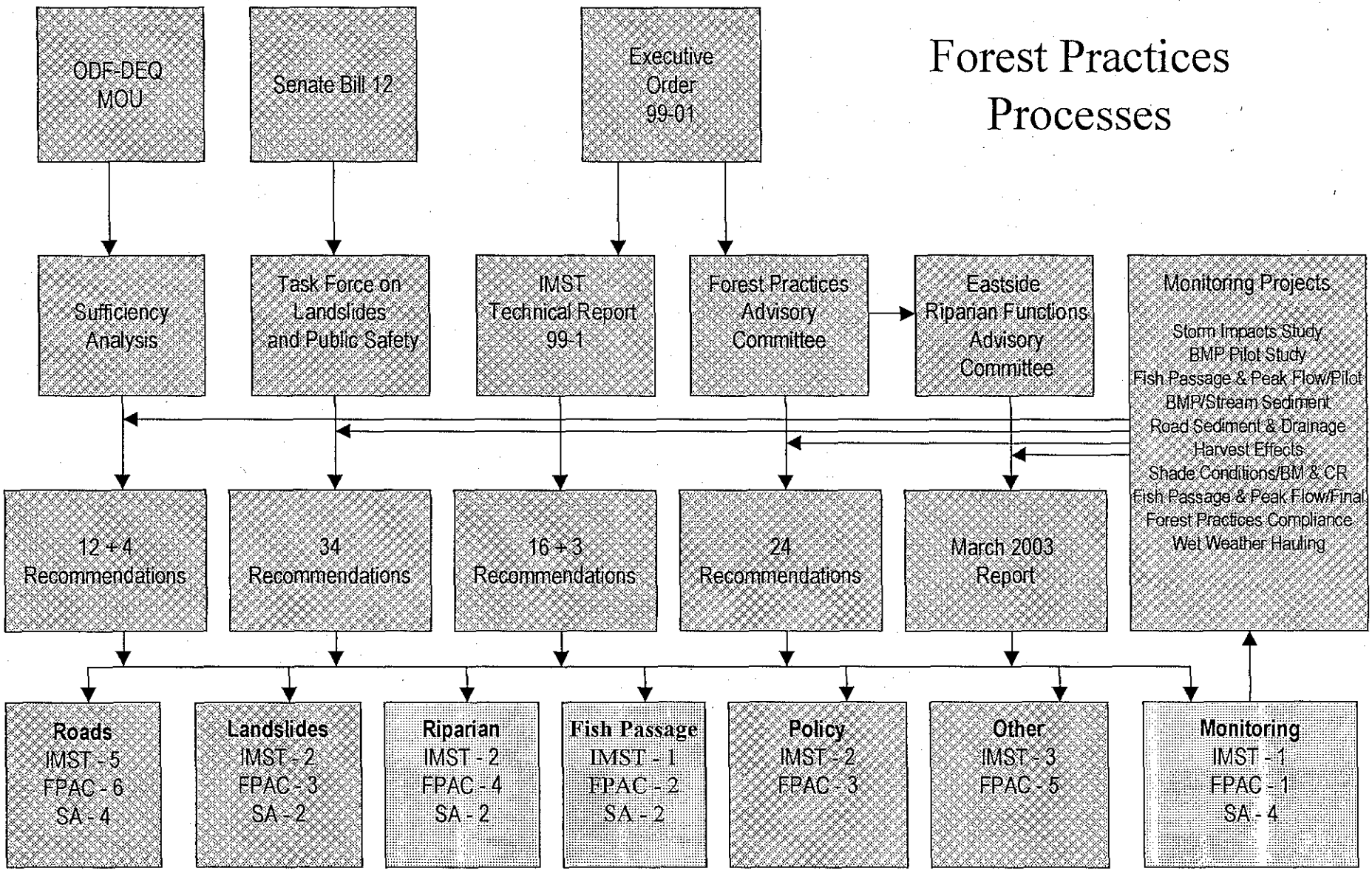
Monitoring Recommendations

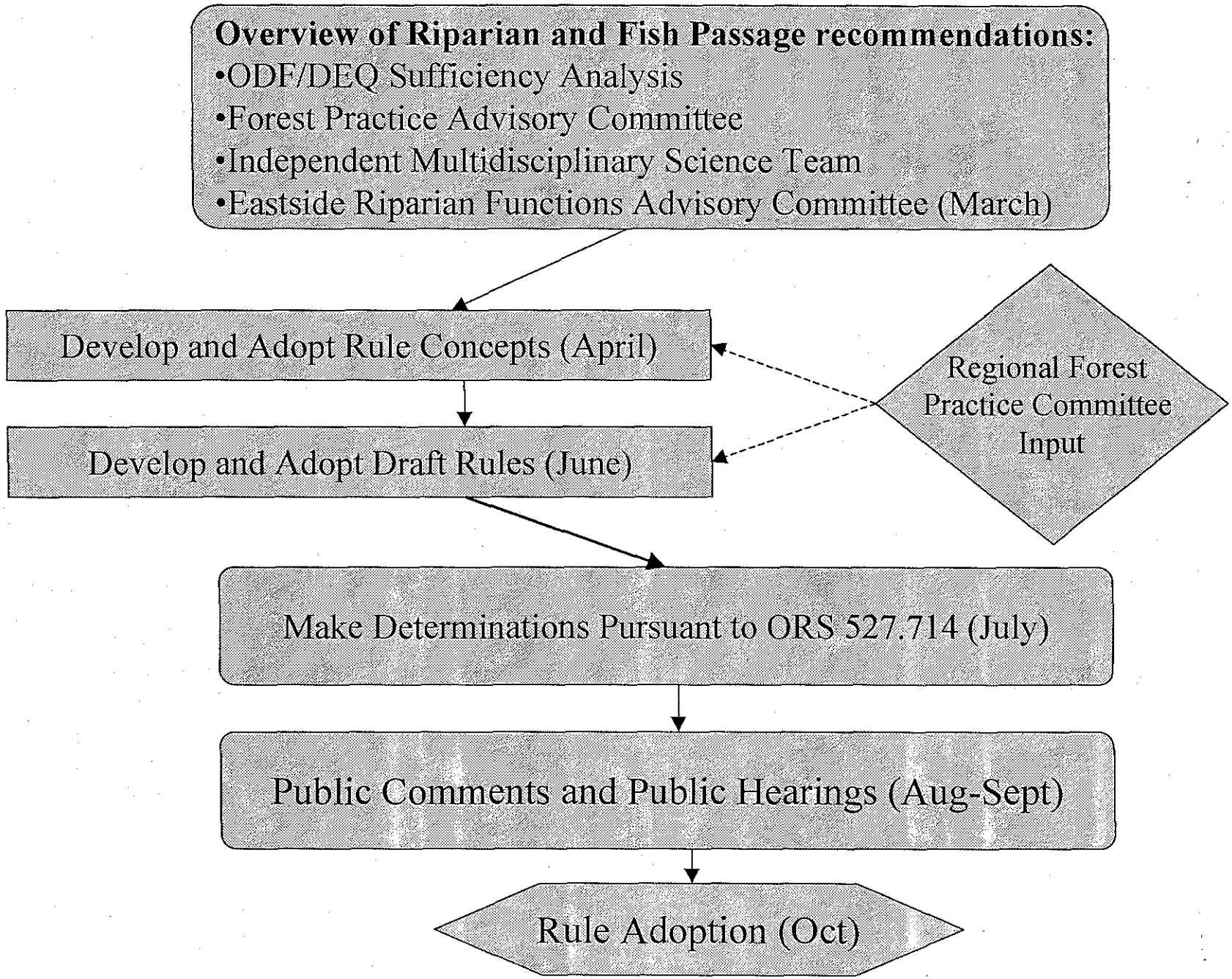
- Effectiveness of future riparian prescriptions
  - FP Monitoring Project: 'RipStream'
- Road compliance and effectiveness monitoring (different scales)
- Oregon Plan effectiveness
- Watershed-scale effects relative to current practices along small Type N streams
  - Headwaters Research Cooperative
  - Hinkle Creek Demo Project

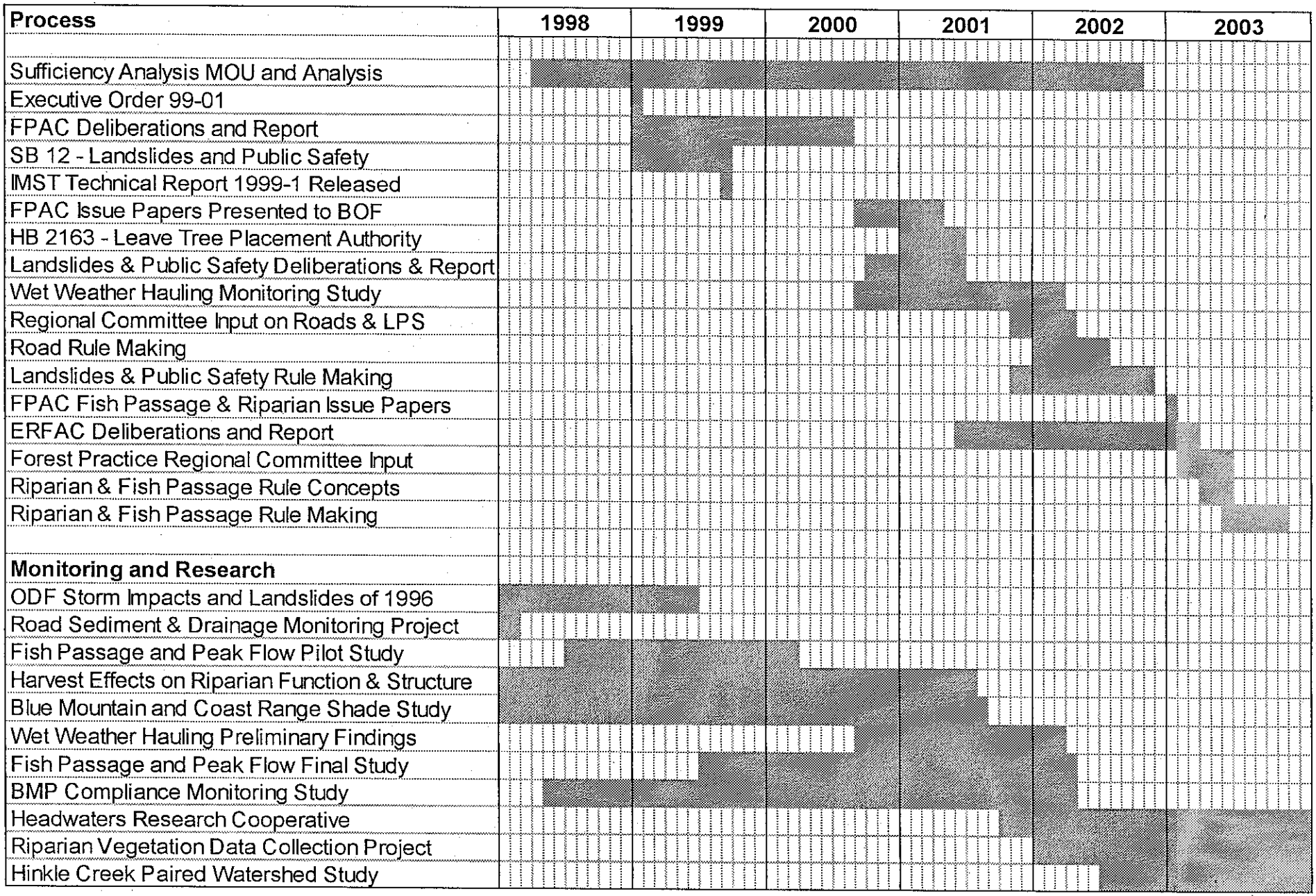
Sufficiency Analysis External Review

- External technical and public policy review: March-August 2002
- 25 invited to review: Federal and state agencies, academics, environmental stakeholders, and industrial and non-industrial forestland owners.
- Six responses: OSU, the National Council for Air and Stream Improvements, industrial forest landowner community, Oregon Department of Fish and Wildlife and NOAA Fisheries
- Generally supportive of the evaluation and recommendations, with suggestions for minor modifications to report.

Forest Practices Processes

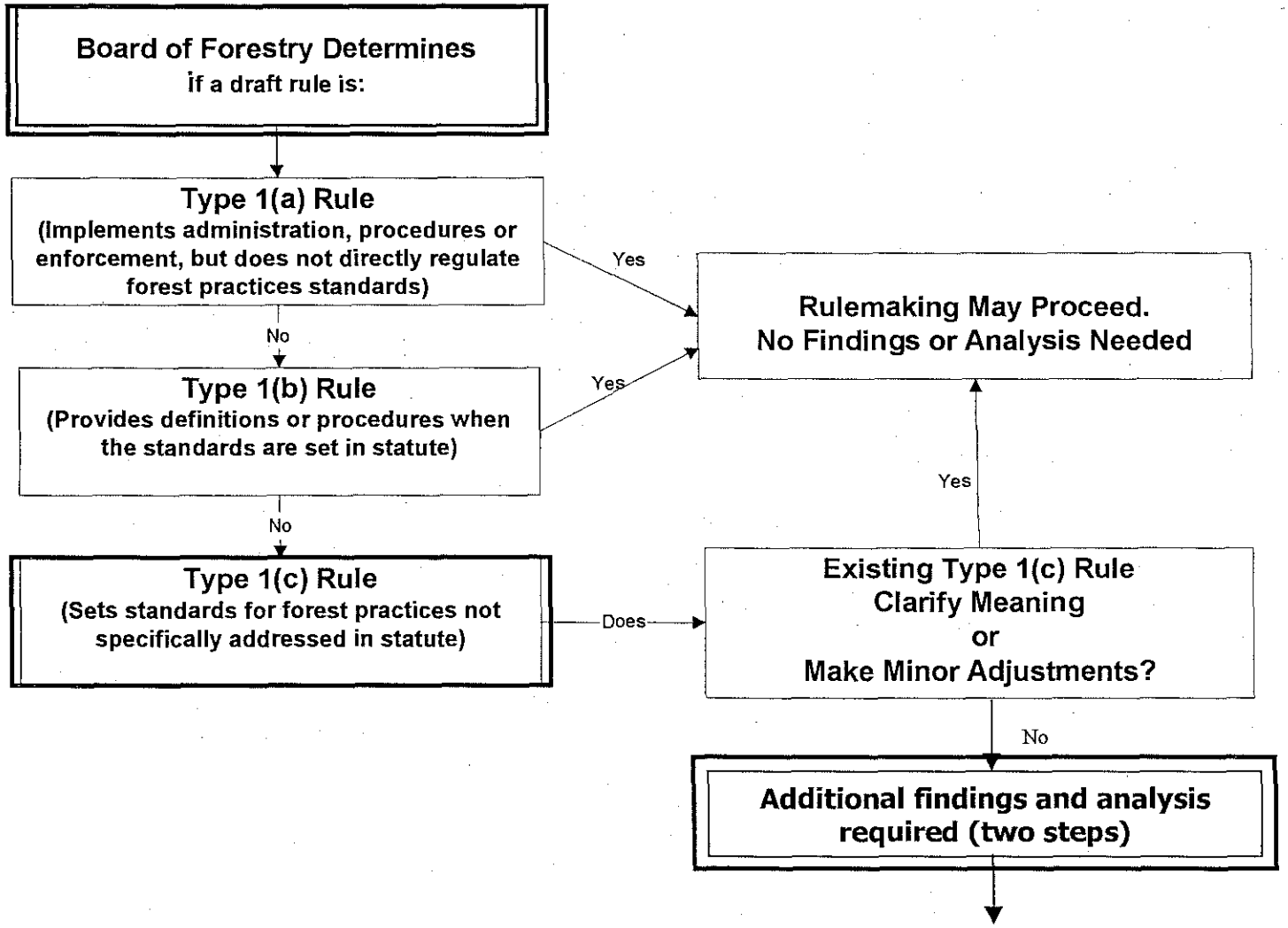



Overview of Riparian and Fish Passage recommendations:
•ODF/DEQ Sufficiency Analysis
•Forest Practice Advisory Committee
•Independent Multidisciplinary Science Team
•Eastside Riparian Functions Advisory Committee (March)
Develop and Adopt Rule Concepts (April)
Develop and Adopt Draft Rules (June)
Regional Forest Practice Committee Input
Make Determinations Pursuant to ORS 527.714 (July)
Public Comments and Public Hearings (Aug-Sept)
Rule Adoption (Oct)


Process
1998
1999
2000
2001
2002
2003
Sufficiency Analysis MOU and Analysis
Executive Order 99-01
FPAC Deliberations and Report
SB 12 - Landslides and Public Safety
IMST Technical Report 1999-1 Released
FPAC Issue Papers Presented to BOF
HB 2163 - Leave Tree Placement Authority
Landslides & Public Safety Deliberations & Report
Wet Weather Hauling Monitoring Study
Regional Committee Input on Roads & LPS
Road Rule Making
Landslides & Public Safety Rule Making
FPAC Fish Passage & Riparian Issue Papers
ERFAC Deliberations and Report
Forest Practice Regional Committee Input
Riparian & Fish Passage Rule Concepts
Riparian & Fish Passage Rule Making
Monitoring and Research
ODF Storm Impacts and Landslides of 1996
Road Sediment & Drainage Monitoring Project
Fish Passage and Peak Flow Pilot Study
Harvest Effects on Riparian Function & Structure
Blue Mountain and Coast Range Shade Study
Wet Weather Hauling Preliminary Findings
Fish Passage and Peak Flow Final Study
BMP Compliance Monitoring Study
Headwaters Research Cooperative
Riparian Vegetation Data Collection Project
Hinkle Creek Paired Watershed Study

FPA Rulemaking Procedures

ORS 527.714



Step 1
Findings

(a) Does monitoring or research document resource degradation? Do landslides create a safety risk?

(b) Does scientific information support protection for wildlife species or resource sites?

(c) Are rules based on science, monitoring, and field evaluation?

(d) Do rules have clear objectives? Do restrictions:

- ❑ Prevent harm or benefit the resource?
- ❑ Reduce landslide safety risks?

(e) Are rule alternatives available, effective, or feasible? Are there non-regulatory alternatives? Is the rule the least burdensome to landowners/timber owners, but still achieve the desired protection?

(f) Is the rule's resource benefit in proportion to existing practices contribution to the overall concern?

Step 2
Analysis

Prepare and Publish a Comprehensive Economic Impact Analysis

(a) Estimate potential change in timber harvest

(b) Estimate statewide economic impact: changes in output, employment, and income

(c) Estimate regional & statewide economic impact on:

- ❑ forest products industry
- ❑ common school and county forest trust land revenues

(d) Consult with affected landowners/timber owners. Assess economic impact, that includes a:

- ❑ Diverse group of affected parcels
- ❑ In various sizes, geographic location and terrain

ODF & DEQ Coordination

ORS 527.765(2)

The Board [of Forestry] shall consult with the Environmental Quality Commission in adoption and review of best management practices and other rules to address nonpoint source discharges of pollutants resulting from forest operations on forestlands.

State of Oregon

Department of Environmental Quality Memorandum

Date: January 9, 2003

To: Environmental Quality Commission

From: Stephanie Hallock, Director S. Hallock

Subject: Agenda Item J, Informational Item: Forest Practices Act Sufficiency Analysis
January 31, 2003 EQC Meeting

Purpose of Item

The purpose of this informational item is to call attention to the findings and recommendations of a collaborative, three year joint effort by the Department of Environmental Quality (DEQ) and the Oregon Department of Forestry (ODF) to determine the effectiveness of the Oregon Forest Practices Act in achieving and maintaining water quality criteria for temperature, sediment, turbidity, aquatic habitat and biocriteria (i.e., aquatic diversity). This evaluation, known as the *Forest Practices Act Sufficiency Analysis*, was initiated as a result of a 1998 Memorandum of Understanding between ODF and DEQ.

Background

The Sufficiency Analysis represents a landmark collaborative effort between DEQ and ODF. Its findings and recommendations will significantly improve the Forest Practice Act effectiveness in achieving and maintaining water quality standards on Oregon State and private forest lands. The Board of Forestry has unanimously accepted the report, and has encouraged ODF to pursue rulemaking to incorporate its recommendations.

Next Steps

The report identifies 12 recommendations for revisions to the implementing rules of the Forest Practices Act which if adopted will significantly improve the Act's effectiveness at achieving water quality criteria. ODF intends to initiate formal rulemaking on these and other recommendations early in 2003. DEQ intends to actively participate in this rulemaking anticipated to be completed next fall.

EQC Involvement

None anticipated at this time.

Attachments A copy of the Sufficiency Analysis executive summary and table of contents is attached for your information. A handout will be provided during the briefing. ODF will also distribute a Gant chart showing their many significant water quality activities, both completed and underway.

Available Upon Request Copies of the full Sufficiency Analysis are available by contacting Ray Gress of ODF at (503) 945-7470.

Approved:

Section:

Division:

Report Prepared By: Mark D. Charles

Phone: (503) 229-5589

Attachment: Forest Practices Act Sufficiency Analysis

Oregon Department of Forestry and Department of Environmental Quality Sufficiency Analysis:

A Statewide Evaluation of FPA Effectiveness in Protecting Water Quality

Produced by:
The Oregon Department of Forestry and
Department of Environmental Quality

October 2002

Oregon
John A. Kitzhaber, M.D., Governor

Department of Forestry
State Forester's Office
2600 State Street
Salem, OR 97310
(503) 945-7200
FAX (503) 945-7212
TTY (503) 945-7213/800-437-4490
http:/ /www.odf.state.or.us

"STEWARDSHIP IN FORESTRY"

DEQ

Memorandum

Date: October 17, 2002

To: Interested Parties

Subject: **Oregon Department of Forestry and Department of Environmental Quality Sufficiency Analysis: A Statewide Evaluation of Forest Practices Act Effectiveness in Protecting Water Quality**

The Oregon Department of Forestry (ODF) and Department of Environmental Quality (DEQ) are pleased to present this joint evaluation of the sufficiency of the Forest Practices Act (FPA) to protect water quality. In recent years increased attention has been given to the development of Total Maximum Daily Loads (TMDLs) and the listing of 303(d) water quality limited streams in the state of Oregon under the Clean Water Act. This presented new opportunities for the ODF and DEQ to move forward together to address water quality issues on nonfederal forestlands. This report represents the culmination of four years of work by our departments, pursuant to an April 1998 Memorandum of Understanding.

The ODF is the designated management agency by statute for regulation of water quality due to nonpoint source discharges or pollutants resulting from forest operations on forestlands. The Board of Forestry, in consultation and with the participation and support of the Environmental Quality Commission, has adopted water protection rules for forest operations (ORS 527.765). Forest operators conducting operations in accordance with the FPA are considered to be in compliance with Oregon's water quality standards (ORS 527.770).

This report draws on available research and monitoring data relevant to current forest practices, and demonstrates overall program adequacy at the statewide scale with due consideration to regional and local variation in effects. This analysis is based on the premise that achieving the goals and objectives of the Forest Practices Act will ensure the achievement and maintenance of water quality goals. Conclusions include the

finding that there is some risk current protection may not be sufficient at a site-specific scale for some small and medium streams, however, the significance and scope of this risk is uncertain.

The purpose of the recommendations included in this report is to ensure that the FPA goals and objectives, and thus water quality standards, are being met. The Board of Forestry will consider the recommendations in light of the relevant social, economic, and environmental context of the FPA. Accordingly, the recommendations are offered to highlight general areas where current practices are either sufficient or could be improved in order to better meet the FPA goals and objectives and in turn provide added assurance of meeting water quality standards.

James E. Brown, State Forester
Oregon Department of Forestry

Stephanie Hallock, Director
Oregon Department of Environmental Quality

EXECUTIVE SUMMARY

Background

In recent years, increased attention has been given to the development of Total Maximum Daily Loads (TMDLs) and the listing of 303(d) water quality limited streams[1] in the state of Oregon under the Clean Water Act. This has presented new opportunities for the Oregon Department of Forestry (ODF) and the Department of Environmental Quality (DEQ) to move forward together to address water quality issues on non-federal forestlands. To adequately address these issues, the ODF and DEQ have agreed through an April 1998 Memorandum of Understanding (MOU) to jointly evaluate the sufficiency of the Forest Practices Act (FPA) to protect water quality. The MOU outlines five specific water quality parameters that will be addressed: temperature, sedimentation, turbidity, aquatic habitat modification, and bio-criteria.

The purpose of this sufficiency analysis, as described the MOU (Appendix D) is to determine:

(a) The adequacy of the FPA pursuant to ORS 527.765 in the achievement and maintenance of water quality standards, with due consideration to regional and local variation in effects;
(b) If forest practices contribute to identified water quality problems in listed water quality limited streams; and
(c) If so, to determine whether existing forest practice rules provide sufficient control to assure that water quality standards will be met so that waters can be removed from the 303(d) list.

Consistent with the MOU, water quality parameters not specifically addressed in the sufficiency analysis "are generally not attributable to forest management practices as regulated by the EPA." Given the lack of any significant information on "other" parameters that might be influenced by current practices since the drafting of the MOU, the ODF and DEQ have agreed that an evaluation of parameters beyond those specifically listed in the MOU is not warranted at the time of this evaluation. The intent of the MOU and the focus of this report is on those parameters where it is known that forest practices have in some cases caused documented changes in water quality conditions.

The overall goal of the water protection rules as stated in Oregon Administrative Rules (OAR 629-635-0100 (7)) is to provide resource protection during operations adjacent to and within streams, lakes, wetlands and riparian management areas so that, while continuing to grow and harvest trees, the protection goals for fish, wildlife, and water quality are met.

> (a) The protection goal for water quality (as prescribed in ORS 527.765) is to ensure through the described forest practices that, to the maximum extent practicable, non-point source discharges of pollutants[2] resulting from forest operations do not impair the achievement and maintenance of the water quality standards.

---

[1] Water quality limited streams are those waters included on the 303(d) list maintained by the DEQ. These are waterbodies currently identified as not meeting water quality standards (see Appendix E).

[2] Non-point source discharges are those originating from diffuse sources across the landscape and cannot be traced to a single point or descrete activity.

(b) The protection goal for fish is to establish and retain vegetation consistent with the vegetation retention objectives described in OAR 629-640-0000 (streams), OAR 629-645-0000 (significant wetlands), and OAR 629-650-0000 (lakes) that will maintain water quality and provide aquatic habitat components and functions such as shade, large woody debris, and nutrients." OAR 629-635-0100 (7)

State policy on water pollution control for state and private forestlands originates from the Environmental Quality Commission (EQC) and applicable administrative statutes:

"To protect, maintain and improve the quality of the waters of the state for public water supplies, for the propagation of wildlife, fish and aquatic life and for domestic, agricultural, industrial, municipal, recreational and other legitimate beneficial uses." [ORS 468B.015(2)]

"Implementation of any limitations or controls applying to nonpoint source discharges or pollutants resulting from forest operations are subject to ORS 527.765 and 527.770." [ORS 468B.110 (2)]

Consistent with these statutes, the FPA is Oregon's water quality standard compliance mechanism with respect to forest operations on state and private forestlands:

"The State Board of Forestry shall establish best management practices and other rules applying to forest practices as necessary to insure that to the maximum extent practicable nonpoint source discharges of pollutants resulting from forest operations on forestlands do not impair the achievement and maintenance of water quality standards established by the Environmental Quality Commission for the waters of the state. Such best management practices shall consist of forest practices rules adopted to prevent or reduce pollution of waters of the state. Factors to be considered by the board in establishing best management practices shall include, where applicable, but not be limited to:

(a) Beneficial uses of waters potentially impacted;
(b) The effects of past forest practices on beneficial uses of water;
(c) Appropriate practices employed by other forest managers;
(d) Technical, economic and institutional feasibility; and
(e) Natural variations in geomorphology and hydrology." [ORS 527.765 (1)]

"A forest operator conducting, or in good faith proposing to conduct, operations in accordance with best management practices currently in effect shall not be considered in violation of any water quality standards." [ORS 527.770]

These Oregon administrative rules are designed to achieve water quality goals consistent with the relevant statutes, ORS 468B.015(2), 468B.110 (2), 527.765, and 527.770 cited above. It is in this regulatory and policy context that applicable water quality standards and the FPA are implemented to address water quality protection for waters of the state.

Most of the parameters addressed in this sufficiency analysis are inter-related, and forest management activities often have the potential to affect more than one parameter at the same

time. For example, habitat can be modified with changes in sedimentation and turbidity, and sedimentation can influence stream temperature by altering channel dimensions and subsurface hydrology, thus affecting the net heat load to the stream. It is logical to take a holistic approach and consider water quality conditions as a result of all the parameters interacting collectively rather than attempting to consider each parameter wholly independent of the others. Accordingly, this report takes a broad approach to examining the sufficiency of the FPA and considers the multiple factors and functions by evaluating water quality standards primarily through the FPA rule objectives.

Given the consistency between the FPA and state water quality statutes and their respective administrative rules, achieving FPA goals, as articulated in the administrative rules, will ensure achieving and maintaining water quality goals and water quality standards to the maximum extent practicable. This sufficiency analysis will therefore consider the adequacy of the rules in achieving the objectives and goals of the FPA. If current practices are meeting FPA objectives and goals, state water quality standards will be met as well. If the ODF and DEQ find FPA objectives and goals are not being met, the BOF will create or modify statewide or regional rules, or design other effective measures to address the water quality impairment.

In analyzing natural resource data and attempting to draw specific cause-and-effect conclusions between human activities and natural resource conditions, the quality and/or quantity of data necessary for a high level of scientific certainty is often not available. This effort at evaluating the sufficiency of the FPA is no exception. Available data pertinent to direct cause-and-effect linkages between the FPA and quantitative water quality conditions is very limited.

There are at least two general points of view regarding such scientific uncertainty. One is to assert that since it cannot be determined with certainty that a set of practices *is* achieving a given water quality standard, a conservative approach should be taken and the rules changed to provide a higher level of protection in case a significant risk does, in fact, exist. Another view is to assert that since it cannot be determined with certainty that a set of practices *is not* achieving a given water quality standard, there is no reason for a change in practices until further monitoring and/or research can prove that a significant risk does, in fact, exist. Both points of view are valid when scientific findings are uncertain, and values and beliefs play a large role in how these points of views utilize limited scientific information.

One task of the ODF and DEQ sufficiency analysis is to present and analyze all of the applicable science and information. Following the completion of this analysis, the Board of Forestry will consider the recommendations in light of the relevant social, economic, and environmental context of the FPA. The goal of this approach is to utilize the recommendations so that outcomes are consistent with both the scientific information and the existing socio-economic framework of the FPA.

Social, Economic, and Environmental Framework

For the report recommendations to be acted upon following its completion, a review of the legal and policy setting, Oregon's forest land base, and forest ecosystem dynamics will need to be considered by the Board of Forestry in reviewing the adequacy of the FPA in meeting water

quality standards "to the maximum extent practicable" as defined by state statute. Appendix A provides this review and describes the overall context in which the FPA operates. There are different environmental, social, and economic implications, depending on the interpretation of "maximum extent practicable," and these implications should be considered for this evaluation to result in an outcome that does not create unintended negative consequences for resource protection. For example, increased forestry regulations in Washington state, combined with development pressures, are partly responsible for ten-times the area of forestlands being converted to other land uses as compared to Oregon over the last decade. While these increased regulations may have resulted in some increase in resource protection for forestlands at a site-specific level, it may have been at the cost of losing an area of land (400,000 acres) to other uses that may not provide as high a level of resource protection as forestlands. Taking into account the social, economic, and environmental aspects in evaluating FPA-sufficiency early on can help to avoid this type of unintended negative consequence, while also ensuring that statutory obligations are met.

Current Scientific Knowledge

Appendix B is a review and summary of the current scientific findings and monitoring results relevant to specific forest practice issues directly related to achieving water quality goals. Each of the water quality parameters that are the subjects of this report are linked to specific forest practice issues that address those parameters. The forest practice issues reviewed here include stream temperature, large wood, forest roads, landslides, and fish passage. The technical information included in this section of the report is used as the basis of the evaluations and recommendations developed in the remainder of this report, and they are referenced accordingly.

Description of Pollution Control Mechanisms

Appendix C describes the current pollution control mechanisms implemented to meet or exceed current water quality standards. These mechanisms include both the FPA and Oregon Plan voluntary measures. They are organized under the same forest practice issues outlined in Appendix B.

Evaluation

The following conclusions apply to all applicable standards (temperature, sedimentation, turbidity, aquatic habitat modification, and bio-criteria).

Site-Specific Evaluation

Current protection requirements may be inadequate in the following areas:

- Standards for some medium and small Type F streams in western Oregon may result in short-term temperature increases at the site level. However, the significance and scope of this increase is uncertain, and it may be offset at the landscape scale by other factors. Relevant to the habitat modification standard and criteria, large wood potential for some of these streams are less than what was assumed under the 1994 rules.

- Standards for some small Type N streams may result in short-term temperature increases at the site level that may be transferred downstream (this may impact water temperature and cold-water refugia) to fish-bearing streams. The significance and scale of this change is uncertain, and it may be offset at the landscape scale. Relevant to the habitat modification standard and criteria, large wood potential delivered by debris torrents (typically in areas of very steep topography) along these streams may be less than optimal.

For large Type F streams, shade levels appear to be adequate, and large wood outputs for these streams is consistent with that assumed under the 1994 rules.

With the exception of the issue of wet-weather hauling and steep-slope ground skidding and those areas noted above, the FPA appears to be adequate when implemented successfully.

Holistic Evaluation

Over time and space the forested landscape changes. Disturbance is an important process for maintaining productivity and resetting the environment, but it can also have a number of impacts to water quality parameters. Human activities can alter the frequency and magnitude of disturbance relative to historical patterns. While some human activities, like timber harvesting, may be more frequent than historical rates of disturbance, harvesting may also be less intense of a disturbance as compared to, for example, historical wildfire. Other impacts, like fire suppression, may reduce the frequency of disturbance, but result in somewhat more intense disturbances when fires do occur. The frequency and intensity of the event can influence vegetative and other disturbance recovery. Human activities to reduce adverse effects, therefore, need to be evaluated against historical patterns of disturbance.

The current distribution of forest stand age classes, the levels of tree stocking in managed plantations, and fire suppression have resulted in well-stocked, dense, closed canopy conifer stands across a larger portion of the forested landscape than has historically occurred. Thus the current rules and practices likely result in an increased level of shade at a landscape scale. At a site-specific scale, however, some level of risk exists along some streams, as noted in the next section. The significance of this risk in terms of influencing stream temperatures at a watershed (or sub-basin) scale is uncertain.

More arguably, higher conifer stocking levels across the landscape in upland and riparian areas may result in an increased potential for large wood delivery. The likelihood of such additional stocking resulting in increased large wood production is dependent upon the harvest levels, retained trees, natural mortality and other disturbance events. Until the sizes of riparian trees increase through normal growth volume may be limited, even though the number of trees may be relatively high. Nonetheless, current practices are likely sufficient at a landscape scale.

Temperature

The following is an evaluation of the temperature standard by specific stream types and sizes:

Medium and small Type F streams: Current research and monitoring results show that current RMA prescriptions for western Oregon may result in short-term temperature increases on some Type F streams; however the significance of the potential temperature increases at a watershed (or sub-basin) scale is uncertain.

Small Type N streams: Current research and monitoring results show current practices may result in short-term (two to three years) temperature increases on some Type N streams. The significance of potential temperature increases on Type N streams to downstream fish-bearing streams and at a watershed (or sub-basin) scale is uncertain.

All other streams: Influences on stream temperatures from shade levels resulting from specific BMP prescriptions for the other stream category types have not been assessed due to a lack of relevant data. However, in light of the data and findings specific to medium and small Type F streams, and given the higher level of vegetation retention on large Type F streams, it is likely that the standard is being met on large Type F streams.

Sedimentation Standard

The intent of the sedimentation standard as it applies to the FPA is to minimize soil and debris entering waters of the state. (OAR 629-30-000(3)) With the exception of wet-weather road use, complying with the road construction and maintenance rules currently in place is likely to result in meeting water quality standards. The rule and guidance recommendations described in the next section of this report will work towards ensuring the goals of the FPA and water quality standards are being met.

Turbidity Standard

Given the lack of quantitative data to specifically address the turbidity numeric standard, the turbidity standard is evaluated qualitatively. The intent of the turbidity standard, as it applies to the FPA, is to minimize soil and debris entering waters of the state. (OAR 629-30-000(3)). Both the FPA and water quality standards are being met when unfiltered surface runoff from road construction is entering applicable waters of the state and there is a visible difference in the turbidity of the stream above and below the point of delivery of the runoff for less than a two- or four-hour duration (depending on the stream grade and with all practicable erosion controls in place). When unfiltered surface runoff from general road use is minimized, and/or if all applicable BMPs have been applied, both the FPA and water quality standards are being met as well.

With the exception of wet-weather road use, complying with the road construction and maintenance rules and guidance currently in place is likely to result in meeting water quality standards. The rule recommendations will help improve compliance and implementation of the FPA to ensure the goals of the FPA and thus water quality standards are being met. Specific to

wet-weather hauling, construction and maintenance standards should be developed for roads at risk for sediment delivery. Prohibiting hauling during periods of wet weather on road systems that have not been constructed with specific standards for surface materials, drainage systems, or other alternatives (paving, increased numbers of cross drains, sediment barriers, settling basins, etc.) will also minimize delivery of sediment streams.

Habitat Modification Standard

The FPA standard as it relates to habitat modification is "to grow and retain vegetation [along fish-bearing streams] so that, over time, average conditions across the landscape become similar to those of mature streamside stands;" and "to have sufficient streamside vegetation [along non fish-bearing streams] to support functions and processes that are important to downstream fish use waters and domestic water use."(OAR 629-640-0000)

The following is an evaluation of the habitat modification standard described above by specific stream types and sizes:

Medium and small Type F streams: Monitoring data indicates the assumptions used to determine basal area targets for small and medium streams in western Oregon may not be consistent with what the RMAs are capable of growing along these streams. The data also shows that 60 percent of harvest operations occurring along fish-bearing streams do not result in management within the RMAs. There is a reasonable possibility that, under the current rules, some of these streams are not likely to result in the "desired future condition" in a timely manner, as described in the goals of the FPA.

Small Type N streams: There is increasing scientific evidence that small non-fish-bearing streams prone to debris flows provide an important source of large wood for downstream fish habitat. While these streams are providing some level of functional large wood inputs and shade production under the current rules, the rules were not specifically designed to retain significant sources of large wood and shade in these areas. There is a reasonable possibility that, under the current rules, some of these streams are not likely to adequately support functions and processes important to downstream fish use waters, as described in the goals of the FPA.

All other streams: Influences on habitat modification resulting from specific best management practices for the other stream category types have not been assessed since they were considered a lower priority. However, given the higher level of vegetation retention on large Type F streams, and in light of the data and findings specific to medium and small Type F streams, it is likely the standard is being met on these streams.

Fish passage blockages: Since 1994, the FPA has required juvenile fish passage be provided on all fish-bearing streams. Current monitoring information does not indicate Forest Practices policies need to be significantly changed on how to install fish-passable stream crossings. With few exceptions, it appears when the guidelines are implemented correctly, the success rate is high for creating conditions believed to provide a high likelihood of fish passage.

Biocriteria Standard

This standard is consistent with multiple FPA purposes and goals that refer to the sound management of soil, air, water, fish and wildlife resources, while at the same time ensuring the continuous growing and harvesting of forest tree species. Given the general nature of this standard and the lack of specific criteria to use in evaluating this standard, biocriteria cannot be explicitly evaluated at this time. It is reasonable to assume that, given the inter-related nature of the temperature, sediment, turbidity and habitat modification parameters relative to biocriteria, to the extent these other parameters are being met, the biocriteria standard is likely to be met as well.

Recommendations

The FPA goals and objectives, as well as most of the state water quality standards and criteria being evaluated in this analysis (temperature and turbidity being the exceptions), are qualitative in nature. Thus, conclusions regarding the effectiveness of the rules in meeting the goals and objectives are qualitative as well. Available data relevant to those quantitative water quality standards (i.e. temperature and turbidity) is inadequate to draw specific and comprehensive conclusions about the adequacy of current practices; therefore, the evaluation of these criteria is also qualitative.

Data in many areas is lacking and, in many cases, not comprehensive. In light of this, any policy decisions made when this report is completed will depend upon professional judgement consistent with available scientific information. As the Board of Forestry considers these recommendations, social and economic factors, along with the scientific evidence on the adequacy of current practices presented here, will be considered as well.

The following recommendations are offered to highlight general areas where current practices could be improved upon to better meet the FPA goals and objectives and, in turn, provide greater likelihood of meeting water quality standards.

Recommendation #1: The RMA basal area retention standards should be revised, where appropriate, to be consistent with achieving characteristics of mature forest conditions in a timely manner; and to ensure that RMAs are providing desirable amounts of large wood and shade over space and time.

Recommendation #2: Revise current practices so desirable amounts of large wood are available along small stream channels that can deliver debris torrents to Type F streams. Ensure that adequate shade is maintained or rapidly recovered for riparian areas along small perennial Type N streams with the potential to impact downstream Type F waters.

Recommendation #3: Provide additional large wood to streams by actively placing the wood in areas where it will provide the greatest benefits to salmonids.

Recommendation #4: Reduce the delivery of fine sediment to streams by installing cross drains to keep drainage waters from eroding slopes. This will allow filtering of sediments and infiltration of drainage water into undisturbed forest soils. Cross drains should not be confused with stream crossing culverts. Cross drains take water from the road surface and ditch and route it under/across the road, discharging the water downslope from the road.

Recommendation #5: Develop specific standards for roads that will be actively used during the wet season. This would include a requirement for durable surfacing of roads in locations where fine sediment can enter streams. This would also include ceasing to haul if roads have not been constructed with effective surface materials, drainage systems, or other alternatives (paving, increased numbers of cross drains, sediment barriers, settling basins, etc.) that minimizes delivery of sediment into streams.

Recommendation #6: Develop specific guidance describing how roads in critical locations would be reviewed to reduce road length, and determining when, despite the relocation, the road location would pose unacceptable risk to resources and not be approved.

Recommendation #7: Construct stream crossings that adequately pass large wood and gravel downstream, and provide other means for passage of large wood and sediment at those crossings that restrict passage. The transport mechanisms for large wood and gravel should include both stream storm flows and channelized debris flows. This would reduce the risk of debris backing up behind the structure, potentially resulting in catastrophic sediment delivery caused by washouts.

Recommendation #8: Develop specific steep-slope, ground-based, yarding practices, or add a prior approval requirement for ground skidding in high-erosion hazard locations.

Recommendation #9: Manage locations most prone to landslides (high-risk sites) with techniques that minimize impacts to soil and water resources. To achieve this objective, best management practices to protect landslide-prone terrain currently in guidance should be incorporated into the forest practice rules, while developing a better case history for evaluating the effectiveness of those practices. These standard practices are designed to minimize ground alteration/disturbance on high-risk sites from logging practices.

Recommendation #10: Provide for riparian functions along stream reaches above impassable stream crossing structures that have a high probability of recolonization by salmonids once the structure is replaced/improved. If an upstream reach has the capacity to be a fish-bearing stream, but is currently a non-fish-bearing stream because a stream crossing structure cannot pass fish,

the forest practices rules should be amended so the upstream reach is classified as a fish-bearing stream.

Recommendation #11: Facilitate the identification, prioritization, and restoration of existing culverts that currently do not pass fish. Culvert replacement should be accelerated above what is currently being done, specifically for family forestland owners who often do not have adequate resources to address this issue in a timely manner.

Recommendation #12: Provide a more effective and efficient means of classifying streams for "fish use." Revise the forest practice rule definition of Type F and Type N streams using a physical habitat approach to classify fish-use and non-use streams.

Compliance and Effectiveness Monitoring

The goal of the ODF forest practices monitoring program is to evaluate the effectiveness of the forest practice rules. Monitoring results are used to guide future management practices through the rule revision process. The goal includes a commitment to address specific Oregon Plan issues. The forest practices monitoring strategy is currently being revised. The key areas identified for improvement include:

- Building understanding, acceptance and support for the monitoring strategy.
- Using random sample design to select all sites. This has been used for two current projects.
- Combining monitoring efforts at each site to increase efficiency (i.e. compliance monitoring and riparian function at the same site)
- Increasing coordination with other Oregon Plan monitoring efforts, most notably DEQ and ODF&W.
- Addressing issues at a watershed scale.
- Improving communication of project status and results, both internally and externally using newsletters and project publications.

The following are specific recommendations for future monitoring:

1. Maintain a riparian monitoring program that continues to monitor the effectiveness of riparian prescriptions and riparian functions to ensure water quality goals are achieved in the future.

2. Monitor improvement of forest roads at a landscape level, looking specifically at implementation of the road hazard and risk reduction project.

3. Evaluate the need for further road compliance and effectiveness monitoring following the completion of the BMP compliance monitoring project relating to road BMPs. Also evaluate the progress and effectiveness of current voluntary efforts under the Oregon Plan to upgrade existing culverts that do not pass fish.

4. Monitoring of watershed-scale effects relative to current practices along small Type N streams should be a priority to help narrow the current level of uncertainty.

The following are remaining issues identified in this report that may warrant future examination as additional information is available:

- Is the occurrence of blowdown having an effect on meeting the goal of achieving "over time, average conditions across the landscape become similar to those of mature forest conditions" in RMAs?

- Are current forest practices meeting the water quality standard with respect to cold-water refugia? (This analysis will not be possible until the DEQ develops the specific guidance necessary to identify cold-water refugia on the ground that can be evaluated against the standard.)

- What effect, if any, are current practices along small non-fish-bearing streams having on downstream sediment regimes?

The Board of Forestry is currently deliberating the recommendations introduced by the Forest Practices Advisory Committee (FPAC) in September 2000. The process of implementing changes to current BMPs will occur over the next few years and is likely to consist of both regulatory and non-regulatory measures. The ODF monitoring program is also beginning a new series of effectiveness monitoring projects to evaluate BMP sufficiency in protecting riparian functions and water quality. There may also be some issues with water quality parameters that are not specifically addressed in this report that could have an unknown potential for current practices to cause changes in water quality conditions. In these cases, the DEQ will coordinate with the ODF and its monitoring program to address these parameters as concerns are identified and documented. Specific details of future monitoring efforts will be determined once the FPAC recommendations are developed further and implemented. ODF's monitoring strategy will continue to be developed at that time.

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