

Part 1 of 2
OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS **07/21/1989**



State of Oregon
**Department of
Environmental
Quality**

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OREGON ENVIRONMENTAL QUALITY COMMISSION

WORK SESSION

July 20, 1989

Nendel's
Valencia Room
1550 N.W. Ninth
Corvallis, Oregon

NOTE: The purpose of the work session is to provide an opportunity for informal discussion of the following items. The Commission will not be making decisions at the work session.

10:00 a.m. - 1. Discussion of Significant New Waste Discharge to Columbia River - Proposed WTD Pulp Mill

10:45 a.m. - 2. Halsey Pulp Mill Expansion - Discussion

NOTE: The Commission will have lunch at noon in the San Miguel Room.

1:00 p.m. - 5:00 p.m.

3. FIELD TRIP: Pope & Talbot Pulp Mill, Halsey, Oregon

OREGON ENVIRONMENTAL QUALITY COMMISSION

TENTATIVE AGENDA

July 21, 1989

LaSells Steward Conference Center
Oregon State University Campus
875 S.W. 26th
Corvallis, Oregon

8:30 a.m. - Consent Items

These routine items are usually acted on without public discussion. If any item is of special interest to the Commission or sufficient need for public comment is indicated, the Chairman may hold any item over for discussion.

A. Minutes of the June 2, 1989, EQC meeting

- B. Monthly Activity Reports for April and May, 1989
- C. Civil Penalties Settlements
- D. Tax Credits for Approval
- E. Commission member reports:
 - Pacific Northwest Hazardous Waste Advisory Council (Hutchison)
 - Governor's Watershed Enhancement Board (Sage)
 - Strategic Planning (Wessinger)

Public Forum

This is an opportunity for citizens to speak to the Commission on environmental issues and concerns not a part of this scheduled meeting. The Commission may discontinue this forum after a reasonable time if an exceptionally large number of speakers wish to appear.

- Fish and Wildlife Youth Commission - Presentation and Discussion

Hearing Authorizations

Request for authorization to conduct public rulemaking hearings on:

- F. New Source Performance Standards (NSPS) and New National Emission Standards for Hazardous Air Pollutants (NESHAPS) - Proposed Adoption of New Federal Rules
- G. Waste Tire Rules - Addition of Provisions Relating to Denial of Waste Tire Carrier Permits

Rule Adoptions

Public rulemaking hearings have already been held on the following rules proposed for adoption. Testimony will not be taken on these items. However, the Commission may choose to question interested parties present at the meeting.

Request for adoption of:

- H. Leaking Underground Storage Tanks - Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil
- I. Bear Creek - Establishment of Total Maximum Daily Loads
- J. Tualatin Basin - Interim Stormwater Control Rules

Action Items

- K. Hazardous Waste Fee Rules - Adoption of Temporary Rule to Continue Existing Fee Schedule, and Authorization for Hearing for Adoption as a Permanent Rule
- L. Approval of Significant New Waste Discharge to the Columbia River - Proposed WTD Pulp Mill at Port Westward

Because of the uncertain length of time needed, the Commission may deal with any item at any time in the meeting except those set for a specific time. Anyone wishing to be heard on any item not having set time should arrive at 8:30 a.m. to avoid missing any item of interest.

The next Commission meeting will be Friday, September 8, 1989. There will be a short work session prior to this meeting on the afternoon of Thursday, September 7, 1989.

Copies of the staff reports on the agenda items are available by contacting the Director's Office of the Department of Environmental Quality, 811 S. W. Sixth Avenue, Portland, Oregon 97204, telephone 229-5301, or toll-free 1-800-452-4011. Please specify the agenda item letter when requesting.

OREGON ENVIRONMENTAL QUALITY COMMISSION

RETREAT

July 19, 1989

Council Room, Memorial Union Building
Oregon State University Campus
Corvallis, Oregon

1:00 p.m. - 5:00 p.m.

TOPIC: New Legislation Implementation

6:15 p.m. - Dinner at O'Callahan's (Nendel's), San Miguel Room

7:30 p.m. - 10:00 p.m.

Continuing Discussion of New Legislation Implementation
at Nendel's, La Mancha Room

NOTE: The purpose of the retreat is for the Commission and the Department of Environmental Quality to discuss the implementation of new legislation passed by the 1989 Oregon Legislature.

OREGON ENVIRONMENTAL QUALITY COMMISSION

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Valencia Room
1550 N.W. Ninth
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OREGON ENVIRONMENTAL QUALITY COMMISSION

REVISED TENTATIVE AGENDA

July 21, 1989

LaSells Stewart Conference Center
Oregon State University Campus
Agricultural Leaders Room
875 S.W. 26th
Corvallis, Oregon

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- C. Civil Penalties Settlements
- D. Tax Credits for Approval
- E. Commission member reports:
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Action Items

- K. Hazardous Waste Fee Rules - Adoption of Temporary Rule to Continue Existing Fee Schedule, and Authorization for Hearing for Adoption as a Permanent Rule
- L. Significant New Waste Discharge to the Columbia River - Proposed WTD Pulp Mill at Port Westward
- M. Underground Storage Tank Annual Permit Fee

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Approved _____
Approved with Corrections _____
Corrections Made _____

MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EOC

ENVIRONMENTAL QUALITY COMMISSION

Minutes of the One Hundred Ninety-Sixth Meeting,
June 2, 1989

Work Session
Thursday, June 1, 1989

Chairman Hutchison and Commissioners Brill and Sage were present; Commissioners Castle and Wessinger were unable to attend the work session.

1. Governor's Watershed Enhancement Board (GWEB) Video Tape:

Andy Schaedel, Water Quality Division, introduced the GWEB video tape. Mr. Schaedel also provided an update on GWEB activities. About 19 projects have been funded, most of which are occurring in Eastern Oregon. There has been discussion that funding could be tied to the state lottery. A retreat was held in March, and a strategic plan is being developed. GWEB will review and discuss the proposed strategic plan at their next meeting.

2. Asbestos Abatement Program - Status Report and Discussion of Residential Abatement Program Issue:

Nick Nikkila, Administrator of the Air Quality Division, presented introductory information on the Asbestos Abatement Program. The asbestos training accreditation and worker certification program has been ensuring that properly trained workers are available to perform asbestos-related demolition/renovation work. However, two major concerns have developed in regard to the program:

- a. Prerequisites for asbestos supervisor training have unnecessarily restricted access to this training. To correct this problem, the Department of Environmental Quality (DEQ) recommended revising existing regulations. This revision would allow work crew supervision as an acceptable prerequisite for the asbestos supervisor training rather than three months actual experience as an asbestos worker. DEQ suggested that the Environmental Quality Commission (EQC) adopt these rules

on an emergency basis so that asbestos removal could occur in schools during the 1989 summer vacation.

In response to a question from Commissioner Sage, Wendy Sims, Air Quality Division, noted that supervisors will still be required to take full training as an asbestos worker, which includes hands-on removal experience and the supervisor training course.

- b. At the residential level, application of DEQ asbestos requirements has been difficult. Current rules may be contributing to improper residential asbestos removal and handling, hindering DEQ's ability to control asbestos abatement.

At present, there is an inadequate supply of certified workers and licensed contractors to safely conduct residential asbestos abatement work. This may have resulted due to a lack of awareness of certification requirements by the remodeling industry and an unwillingness to take residential work due to high insurance costs. Projects are being improperly conducted by either homeowners or uninformed remodelers, resulting in a danger to both public and worker health.

The Asbestos Advisory Board recommended the Commission approve an extension of the licensing and certification deadline for residential asbestos-related projects from January 1, 1989, to January 1, 1990. The DEQ recommended the extension be granted with a variance which would be effective from the rule date. Michael Huston, Assistant Attorney General, advised the Commission that a variance with such conditions could be granted.

Commissioner Brill asked if there is a requirement to disclose the presence of asbestos upon sale of the property. Ms. Sims responded that there is no such requirement at present. Mr. Nikkila noted that a bill that would have required an inspection recently failed to receive legislative committee approval. Mr. Huston indicated that bill amendments providing inspection for the presence of asbestos could ensure protection from liability. Chairman Hutchison indicated an inclination to revive the legislation proposal.

Ms. Sims informed the Commission that reevaluation of the asbestos abatement rules is planned by the Department. This evaluation will ensure that proper handling of asbestos occurs, that clarification of intent in the existing rules has been provided and that housekeeping changes have been incorporated. The Department will be returning to the Commission for hearing authorization on these rule changes in the fall.

3. **Woodstove Emission Offsets - Discussion on Feasibility and Criteria for External Woodstove Offsets for New and Expanding Industry.**

This work session item was in response to EQC concerns about the Department's authority and the feasibility of obtaining residential woodstove emission offsets and development of criteria to define emission offset credits. Mr. Nikkila and John Core, Air Quality Division, presented information to the Commission on the following issues:

- a. The State Attorney General's office and the U. S. Environmental Protection Agency (EPA), Region X, have indicated that the plan in which industrial sources work directly with low-income homeowners to encourage replacement of their woodstoves with a non-wood space heating system is feasible. No additional Department authority is needed to allow woodstoves emission to be used as a source of industrial emission offset.
- b. About 84 woodstoves must be removed to provide the 15 tons per year PM₁₀ offsets. There are about 630 low-income, sole-source woodheating households within the Klamath Falls urban growth boundary. Department rules require that offsets be in place before industrial emission increases occur.
- c. Federal and state rules require that offsets be quantified, permanent and enforceable. To assist industries in establishing a residential woodstove external emission offset program, the Department prepared guidelines. These guidelines include program criteria necessary to meet basic State of Oregon and EPA rule requirements.

Chairman Hutchison asked if there was any precedent for such an offset program. Mr. Nikkila cited, as an example, the vehicle inspection/maintenance program in Medford which creates a growth margin for use as Volatile Organic Compounds (VOC) by pooling emission reductions from individual

automobiles. Chairman Hutchison questioned whether there would be an interest on the part of stove owners to give up their stoves in exchange for other heating systems. Mr. Core responded that the Cooperative Local Effort for Air Resource (CLEAR) program in Medford involved the conversion from wood heating stoves to less polluting heat sources for low-income residents and had no shortage of applicants. In addition, the CLEAR program requires that when the woodstove is removed, a restrictive covenant, prohibiting future installation of a woodstove at the address, is added to the deed. Based on the Medford experience, the residential offset approach appears to be very workable.

In response to questions, Mr. Core provided an update on Senate Bill 422, the woodstove bill. Mr. Core also noted that in addition to reducing woodstove emissions, fugitive emissions also need to be reduced to meet standards in Klamath Falls.

Perry Rickard, Klamath County Health Department, told the Commission he believed implementation of the woodstove emission offset program could be difficult. Mr. Rickard cited the timeframe for replacing stoves in the CLEAR Project. He noted the difficulty to accomplish replacement of 85 woodstoves in time to start up the Jeld-Wen facility this fall. Mr. Rickard also indicated that the fuel cost issue had not been addressed. Mr. Core responded that installation of the new woodstoves could be completed in one and one-half months and that the cost of fuel was considerably less for industry than the cost of operating and maintaining costly new emission control equipment.

Chairman Hutchison expressed concern regarding the covenant process.

4. Discussion Item: Bacona Road Landfill Site Well Abandonment.

Steve Greenwood updated the Commission on the status of the proposed Bacona Road landfill site. In 1985, the legislature gave the EQC the responsibility to select and to order the establishment of a solid waste disposal site for the Portland metropolitan area. The Department contracted with CH₂M/Hill to study appropriate sites. In 1987, the EQC selected the Bacona Road site in northern Washington County, contingent upon the outcome of a contested case hearing. The Metropolitan Service District signed a 20-year contract for solid waste disposal in Gilliam County, and formally requested that the EQC not pursue the Bacona Road site. The

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1987 legislature passed a law prohibiting the EQC from allowing the order for the establishment of the Bacona Road site to expire before July 1, 1989.

In the process of studying the Bacona Road site, a number of test wells were drilled. Five wells are more than 200 feet deep. If the Bacona Road site is not to be developed, the wells need to be properly abandoned, including filling and sealing, so that the wells do not present the danger of contaminants entering the groundwater.

Currently a budgetary limitation exists and revenue is available for the work to be completed in this biennium. However, official expiration of the EQC order for establishment of the landfill cannot take place, by state law, until after July 1, 1989.

The Department proposed to proceed with abandonment prior to July 1, 1989. This would allow abandonment to occur with existing contracts and existing budgetary limitations to be used. The risk of the EQC reopening the contested case hearing on Bacona Road is considered very low since Metro has a contract to take waste for 20 years at the Gilliam County site and has indicated no interest in developing the Bacona Road site.

Greg Brown, representing the Bacona Road residents, told the Commission he would like to see the wells filled to protect the groundwater.

The Commission expressed concern with well abandonment prior to formal termination of the order establishing the Bacona Road site. The Department, therefore, advised that it would not proceed with abandonment at this time and would report back to the Commission during the summer.

FORMAL MEETING

June 2, 1989

Portland General Electric
14655 S. W. Old Scholls Ferry Road
Beaverton, Oregon

Commission Members Present:

Emery Castle, Vice Chairman
Wallace Brill
Genevieve Pisarski Sage

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Commission Members Absent:

William Hutchison, Chairman
William Wessigner

Department of Environmental Quality Staff Present:

Fred Hansen, Director
Michael Huston, Assistant Attorney General
Program Staff Members

NOTE: Staff reports presented at this meeting, which contain the Department's recommendations, are on file in the Office of the Director, Department of Environmental Quality, 811 S. W. Sixth Avenue, Portland, Oregon 97204. Written material submitted at this meeting is made a part of this record and is on file at the above address.

CONSENT ITEMS

Agenda Item A: Minutes of the April 14, 1989, EQC meeting.

Commissioner Sage noted the minutes did not reflect that she could not attend the proposed July EQC retreat on July 19 and 20, 1989, due to a conflict with a scheduled Governor's Watershed Enhancement Board (GWEB) meeting at the same time.

Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously passed to approve the minutes of the April 14, 1989, regular meeting.

Agenda Item B: Monthly Activity Reports for March 1989.

The Commission accepted the report and took no formal action.

Agenda Item C: Civil Penalties Settlements.

The following proposed settlement agreements were presented for the Commission's consideration and approval:

- a. WQ-WVR-88-61A & B, Irvin Hermens
- b. AQAB-NWR-88-85, Air Rite Control, Inc.
- c. AQOB-CR-88-58, John Bowers
- d. AQ-WS-88-70, Gleneden Brick & Tile Works, Inc.
- e. WQ-NWR-88-98, Magar E. Magar, dba/Riverwood Mobile Home Park

Commissioner Sage asked how the Department established the amount of the Hermens penalty and about the basis for the reduction. Tom Bispham, Administrator of the Regional Operations Division, explained that the penalty was established under the old penalty system, and the amount was determined by comparing the situation and violation to similar agricultural penalties. The reduction was determined by considering the Hermens' financial situation and the fact that steps to correct the violation had been implemented.

Commissioner Brill moved the recommendation be approved. The motion failed for lack of a second.

Commissioner Sage then asked about which law the Gleneden Brick and Tile Works, Inc. had violated. Mr. Bispham explained the violation was for selling an uncertified woodstove. Although the respondent alleged the stove was used, no records were provided by the company to verify this statement. Based on discussions with the Attorney General's office and the company, the DEQ concluded that proving intent may be difficult and elected to settle the matter at the lesser amount.

Action: It was **MOVED** by Commissioner Sage, seconded by Commissioner Brill, and passed unanimously that the settlement agreements be approved as recommended by the Director.

The settlement agreements were signed by the Commission.

Agenda Item D: Tax Credits for Approval.

The Department presented recommendations that five applications for tax credit be approved as follows:

- T-2124 Willamette Industries, Inc. for Groundwater Monitoring Wells
- T-2139 Roger De Jager for Manure Control Facilities
- T-2158 Stimson Lumber Co. for Dip Tank, Containment Sump
- T-2405 Valley Enterprises Ltd. for Air Emission Control System
- T-2636 Willamette Industries, Inc. for Log Pond Closure

The Department further recommended that a tax credit certificate be denied for the following application:

- T-2191 Forrest Paint for Groundwater Monitoring Wells

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The Commission proceeded with discussion of the recommended denial of the Forrest Paint application. This application was previously considered at the April 14, 1989, meeting. At that time, the EQC directed staff to determine if a difference in professional judgment occurred between the Willamette Valley Region Office in Salem and the Portland headquarters office. This opinion concerned the question and conditions of eligibility regarding Forrest Paint's tax credit application.

Scott Forrest, Forrest Paints, presented to the Commission documentation about his tax credit application process. A copy of this documentation is made a part of this meeting record. Mr. Forrest said that the company's monitoring wells met the tax credit laws as written, and that he was induced to install the wells based on tax credit eligibility.

Recommendation: The Department recommended the Commission deny Forrest Paint's application, T-2191, for tax credit certification since state law does not authorize tax credit for facilities associated with the cleanup of unauthorized releases which has been substantiated by staff findings.

Action: It was MOVED by Commissioner Sage and seconded by Commissioner Brill to issue Tax Credit Application T-2191 to Forrest Paints. Vice Chairman Castle advised that he would not vote in favor of the motion. Since only three Commission members were present, the motion failed. Commissioner Brill then MOVED amendment of the motion to defer a decision until the July 21, 1989, EQC meeting. Commissioner Sage seconded the amended motion which was unanimously approved. (The Forrest Paint application was deferred to the July 21, 1989, meeting.)

Recommendation: The Department recommended approval of five applications as noted above.

Action: It was MOVED by Commissioner Brill, seconded by Commissioner Sage and unanimously passed to approve the remaining applications for tax credit as recommended by the Department.

Agenda Item E: Commission Member Reports.

Pacific Northwest Hazardous Waste Advisory Council: Because Chairman Hutchison was not able to attend this meeting, no report was given.

Governor's Watershed Enhancement Board: Commissioner Sage indicated that GWEB issues and updates were provided at the Thursday, June 1, 1989, work session.

Strategic Planning: Because Commissioner Wessinger was not able to attend this meeting, no report was given.

PUBLIC FORUM

John Pointer, Citizens Concerned with Wastewater Management, spoke to the Commission about the City of Portland sewage spills. Mr. Pointer said the City has not provided backup power at their sewerage pump stations. He indicated that California is taking steps to correct this situation in their state and that Oregon should be requiring cities to install backup power and tighten contaminant discharge standards. Mr. Pointer read to the Commission a list of questions and made several charges that the Department was unresponsive and dishonest in their treatment of his complaints.

Vice Chairman Castle noted that Mr. Pointer's statements were serious, and asked if Director Hansen had any comments. Director Hansen stated the Department had trouble resolving Mr. Pointer's exact questions. The Department had requested that Mr. Pointer present his questions clearly in writing so that his questions and the Department's response could be presented to the Commission.

Vice Chairman Castle said he would bring Mr. Pointer's concerns to Chairman Hutchison's attention and that the Department would be responding to Mr. Pointer's charges.

Paul Wyntergreen, Oregon Environmental Council (OEC), introduced himself to the Commission as the Southwest Region representative of the Oregon Environmental Council. Mr. Wyntergreen invited the Environmental Quality Commission to attend OEC's Clean Air Fair which will be held on September 30, 1989, and extended an invitation to the Commission to hold their September meeting in Jacksonville, Oregon.

Jack Churchill, Tualatin River Keepers, welcomed the Commission to the Tualatin Valley. On behalf of the Northwest Environmental Defense Center, he expressed concern that the Department report on Agenda Item K did not accurately reflect their testimony. Vice Chairman Castle indicated his concern would be considered during discussion of Item K.

Agenda Item F: Field Burning - Permanent Rules to Replace Temporary Rules Adopted during the Last Burning Season.

The purpose of this agenda item was to propose adoption of open field burning rules, OAR, 340-26-001 through 340-26-055, as a revision to the Oregon State Clean Air Act Implementation Plan.

Emergency rules were adopted by the State Fire Marshal and the EQC on August 12, 1988, following a multi-car accident south of Albany. The temporary rules imposed additional restrictions on burning in buffer zones as defined in the Fire Marshal's rules. Recently the State Fire Marshal's Emergency Rules were permanently adopted.

The Department requested the EQC adopt the August 12, 1988, emergency rules as permanent. In addition, the Department proposed rule modifications to propane flaming and stack burning activities within the State Fire Marshal's fire safety buffer zones.

Jay Waldron, attorney for the Oregon Seed Council, spoke to the Commission about the following problems concerning the proposed rules:

- the proposed stack burning rules are discriminatory and unacceptable.
- the term make every effort should be changed to reasonable effort.
- the term any visibility impairment should be changed; any is too broad.
- there was an error in the land use and economic impact evaluation.
- there was concern about the State Implementation Plan (SIP) approval process since this process takes one year for approval, and the rules do not take effect until approved.
- there was no evidence that the Department consulted with Oregon State University (OSU) as required.
- according to OAR 340-26-010(12), rule changes must be made by June 1, 1989.

In response to questions, Mr. Nikkila replied that the state rules go into effect upon adoption and filing; the rules are not held in abeyance pending SIP approval. He also noted that the

proposed rule adoption does not come under the June 1 limit since allowable acreage burned or open field burning is not affected. Mr. Nikkila said that OSU had been given an opportunity to provide comments on the proposed rules. The Commission asked Mr. Huston for his opinion on these issues, and Mr. Huston advised the Commission that the preliminary opinion was a plausible interpretation of the rule language.

Recommendation: The Department recommended the Commission adopt the proposed field burning rule changes (OAR 340-26-001 through 340-26-055) as a revision to the State Implementation Plan.

Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously passed that the Department's recommendation be approved.

Agenda Item G: Gasoline Volatility - Proposed Rule to Limit Gasoline Volatility During the 1989 Summer Ozone Season.

The purpose of this agenda item was to propose adoption of a rule to limit the volatility (vapor pressure) for motor vehicle fuels in western Oregon. By establishing a maximum limit of gasoline volatility at 10.5 pounds per inch (psi) for the summer months (initially defined as May 15 to September 15, 1989), this limitation would reduce the volatile organic compounds (VOCs) emitted and would help meet the ambient air ozone health standard for 1989 and future years. During 1989, the effective dates of the regulation would be between June 15 and September 15.

Staff provided an addendum to the staff report and proposed rule. The addendum replaced the proposed rule in Attachment A, Standard for Automotive Gasoline. Differences included the starting date, June 1 rather than May 15; percent of alcohol content for gasohol, greater than 9 percent rather than 10 percent; and written comments from Herman & Associates, Washington, D. C., which should have been part of the Hearing Officer's report.

Mr. Nikkila advised the Commission that EPA had adopted a 10.5 psi limit for all of Oregon. However, EPA intends to target their enforcement resources into other parts of the country and does not intend to enforce their rule in Oregon this summer. Therefore, Oregon will have to adopt rules to ensure enforcement.

Recommendation: The Department recommended the Commission adopt the proposed rule to limit the volatility for motor vehicle fuels as presented in revised Attachment A.

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Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously passed that the Department's recommendation, as amended, be approved.

Agenda Item H: Klamath Falls Area - New Industrial Rules for PM₁₀.

The purpose of this agenda item was to reconsider adoption of new industrial rules for PM₁₀ emission control within the Klamath Falls urban growth boundary. These new rules would lower the emission offset requirement for new or modified sources from 15 to 5 tons per year, designate the Klamath Falls urban growth boundary as the PM₁₀ nonattainment area, retain the Lowest Achievable Emission Rate (LAER) requirement at the existing 15 ton per year offset level and apply the rule retroactively to permits which had not been issued prior to April 29, 1988.

At the April 14, 1989, EQC meeting, the Commission considered adoption of the proposed Klamath Falls industrial offset rule. However, the Commission deferred action on the rule, requesting clarification of three issues relating to the use of woodstove emission offsets, the authority of the Department to use woodstoves as external industrial offsets and the feasibility of obtaining woodstove emission reduction offsets from Klamath Falls woodheating households and the need to define specific criteria for woodstove emission offset credits.

The Department reviewed these issues and concluded there were no statutory, administrative or technical barriers to immediately using woodstove emissions as offsets. These issues were discussed in the Commission work session on June 1, 1989.

Recommendation: The Department recommended the Commission retain the current 15 ton per year requirement for LAER; however, new or modified sources greater than 5 tons per year would be required to obtain emission offsets. The rule would apply retroactively to April 29, 1988, thereby including the Jeld-Wen permit application.

Stan Meyers, representing Jeld-Wen, read a statement into the record. He noted the proposed program is not efficient and that industry should not have to be involved with individual citizens for securing offsets. Mr. Meyers urged withdrawal of the proposal.

Harry Fredericks, Klamath County Commissioner, said that industry contributions to the PM₁₀ problem are very minor. He considered the retroactive provision of the proposed rule to be unfair.

Vice Chairman Castle expressed concerns about the retroactive provision of the rule and requested additional information regarding the process of obtaining offsets. Mr. Nikkila responded that the term retroactive was misleading since the proposal would apply new PM₁₀ standards to pending applications. Vice Chairman Castle noted that industry appreciates certainty and timely responses, and he expressed concern about applying standards that did not exist at the time the permit application was filed.

With respect to the process, Mr. Nikkila noted that brokers usually look for development sites where offset programs are in effect; the broker secures offsets for the industry. Mr. Meyers indicated there was no broker in the Klamath Basin, that the needed offsets would not be available by November 1, 1989, that the company would not subsidize heating bills, that Jeld-Wen had concerns with the retroactive requirement and was unwilling to tolerate the continued uncertainty of the regulation.

Commissioner Sage expressed a preference to adopt the Department's recommendation without the retroactivity provision; Commissioner Brill and Vice Chairman Castle agreed. Director Hansen recommended that staff develop language to implement the intent of the Commission. The Commission deferred a decision pending development of implementation language.

The Commission then proceeded to agenda item M.

Agenda Item M: Asbestos Abatement Program - Proposed Adoption of Temporary Rule Suspending Existing Rules on Residential Abatement.

The purpose of this agenda item was to request adoption of a temporary rule modifying the prerequisites for asbestos supervisor training and a class variance exempting residential facilities from regulation extension. This item was considered by the Commission at their June 1, 1989, work session.

Recommendation: The Department recommended the Commission adopt the temporary rule as presented in Attachment A and supported by rulemaking attachments in Attachment B, and the class variance as presented in Attachment C of the staff report.

Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously passed that the Department's recommendation be approved.

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It was **MOVED** by Commission Sage, seconded by Commissioner Brill and unanimously passed that the Department's recommendation for adoption of the variance be approved and that the Director be authorized to execute the final variance order.

Agenda Item H: (Continued)

Department staff returned to the Commission with the following rule change:

Agenda Item H, Attachment A, Page A-1:

Note: ** For the Klamath Falls Urban Growth Area, the Significant Emission Rates for particulate matter apply to all new or modified sources for which permit applications have not been submitted prior to June 2, 1989; [permits have not been issued prior to April 29, 1988;] ...

(Bracketed text is old language; underlined text is new language.)

Action: It was **MOVED** by Commissioner Sage, seconded by Commissioner Brill and unanimously passed that the Department's recommendation as revised be approved.

Agenda Item I: Hazardous Waste Rules - General Resource Conservation and Recovery Act (RCRA) Program Rule Revisions Including Adoption of New Federal Rules.

The purpose of this agenda item was to request adoption of hazardous waste rules. This was the fourth in a series of adoptions by reference of federal regulations to obtain EPA authorization for implementing the base Resource Conservation and Recovery Act (RCRA) program and HSWA (Hazardous and Solid Waste Act) regulations.

After public hearings were held on the proposed rule revisions, Chem-Security Systems, Inc. (CSSI) contacted the Department about some concerns they had related to the signature authority for hazardous waste permit modifications. The issue CSSI raised was whether the Department or the EQC had authority to approve certain permit modifications. CSSI recommended the proposed regulation require the Department, rather than the EQC, to approve modifications that are minor technical or administrative changes to the facility permit.

Attachment A of the staff report was amended by adding clarifying language that would allow the Department to approve Class 1 and 2 permit modifications for storage, treatment and disposal.

facilities, and Class 3 permit modifications for storage and treatment facilities.

Recommendation: The Department recommended the Commission approve Alternative 1, to adopt the base RCRA and HSWA regulations as proposed.

Action: It was **MOVED** by Commissioner Sage, seconded by Commissioner Brill and unanimously passed that the Department's amended recommendation be approved.

Agenda Item J: Construction Grant Rules - Modification to Implement Transition to Revolving Loan Fund.

The purpose of this agenda item was to request adoption of modifications to the construction grant rules for transition to the State Revolving Loan Fund program. The proposed modifications provide for preparation of a final list of projects eligible for grant funding, place limitations on the projects eligible, limit total eligible grant project costs to \$1.5 million, remove the requirement that the Commission approve the grant priority list and establish July 17, 1989, as the deadline for jurisdictions to request placement on the final grant priority list. The rule modifications will limit the number of jurisdictions eligible to receive federal grants, and thereby increase the ultimate size of the total pool of money available for the revolving loan fund.

The proposed rule modifications were amended from the version presented for public hearing to include a date change. This change allows for a 30-day notice for a public hearing after the Commission meeting on June 2, 1989.

Recommendation: The Department recommended the Commission approve the proposed rule modifications for the construction grants program contained in Alternative 1 and Attachment A.

Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously approved that the Department's recommendation be approved.

Agenda Item K: Increased Wastewater Discharges - Rule Modifications.

The purpose of this agenda item was to request adoption of modifications to a water quality rule which establishes policy for increased wastewater discharges. The Commission had requested these modifications to add environmental and economic

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decision guiding criteria to existing water quality management policies in OAR 340-41-026.

The proposed rule modifications include issues such as presently unused capacity of a stream or lake to assimilate waste discharges, decision-making criteria, consideration of environmental and economic criteria in allocating unused assimilative capacity and delegation of authority to the director for applying the criteria and determining minor or small sources. The decision authority for major sources is retained with the Commission.

Recommendation: The Department recommended the Commission adopt Alternative 2, adoption of the rules with modifications to address hearing testimony as presented in Attachment A.

Cyndy Mackey, representing Northwest Environmental Defense Center (NEDC), expressed the Center's desire to have the Department move forward with a basin-wide management approach to discharges and streams. NEDC's concern was that this rule ignores that movement and allows ad hoc increases in discharges without taking into consideration upstream or downstream conditions. NEDC questioned how to determine the reserve assimilative capacity availability without knowing the point and non-point sources in the entire basin.

Mr. Churchill noted he had made comments for NEDC at the public hearing and believed those comments were misrepresented in the staff report; therefore, NEDC filed additional testimony at this EQC meeting. Mr. Churchill characterized the proposed rules as a Band-Aid to defunct policy. He asserted that permits have driven basin planning for too long and that basin plans have not controlled water quality. No load increases should be granted without complete basin analysis.

Bill Gaffi, representing the Association of Oregon Sewerage Agencies (AOSA), noted that their organization did not meet in time to submit testimony for the report. Mr. Gaffi stressed the need for current, sound basin plans which maintain the quality of the water resources and accommodate necessary growth. He was concerned that the Department may not be able to make the findings required by the proposed rules. AOSA recommended that rule modification be followed by an updated basin plan. AOSA and their members were prepared to offer assistance and resources to promote the basin planning effort. Mr. Gaffi recommended that all dischargers be held to existing loads pending plan update unless severe hardship was demonstrated. However, if the Commission proceeded with adoption of these rules, Mr. Gaffi requested an

amendment be added which could be developed with the assistance of Water Quality staff.

Dick Nichols, Administrator of the Water Quality Division, responded that existing rules require the Commission to decide on requests for new source discharge loads to streams, increased discharge loads from existing sources and discharges to lakes. The proposed rules add criteria for making these decisions.

Director Hansen noted that the current policy requires expansion to be accommodated within allocated discharge loads unless the Commission grants approval for an increase. This policy was first adopted in 1976 and has effectively required sources to adopt higher levels of control. About two years ago, the City of Gresham submitted the first application for increased discharge load under the policy. Gresham was required to expand their system to serve existing development in Mid-Multnomah County by an EQC order. At the same time, the City wanted to provide capacity for industrial growth.

This application process allowed identification of inconsistencies in existing policies. A new industry could apply for a permit to discharge directly to the stream. The discharge requirements for protecting water quality and meeting standards could be less restrictive than if the industry discharged to the City (where the city had to stay within current load allocation). Inconsistencies have developed where one source has undergone expansion and increased treatment efficiency under the policy while a neighboring source which has not expanded and continues to provide a less stringent level of treatment.

Director Hansen stressed the need for comprehensive plans but noted that even with such plans, if reserve assimilative capacity exists, there must be a basis for making decisions on capacity allocation. The proposed rules address decision making criteria in the interim and require dischargers to seek alternatives for discharging or accommodating growth. Although alternatives include increased treatment efficiency for staying within existing loads, they also provide criteria for deciding the few cases where extraordinary circumstances exist. Director Hansen stated the existing policy still addresses an important issue and is not a defunct policy. He welcomed the offer of support and resources.

Mr. Churchill expressed concern that there will be many requests for increases, and the use of the proposed rules will not be for rare instances as suggested by Director Hansen. He further noted that he did not object to the criteria or to the minor source decisions being delegated by the director. However, he objected

to the Department using staff to study the work that a paid consultant has already done to determine reserve capacity availability. Mr. Churchill said the Department should identify the available reserve capacity on stream segments so that increased discharges can be considered in the future.

Mr. Churchill urged that action be postponed on the proposed rule modifications, and that the Commission direct the Department to provide the following information:

- a. A list of all wastewater discharge permits where load increases are projected to be requested during the next five years.
- b. A priority list of updates for each river basin water quality management plan and allocation of point and non-point source loading.
- c. A description and schedule for a streamlined, coordinated basin-wide water quality planning and management approach.

Mr. Churchill also suggested the Department hold a conference of to discuss these issues.

Vice Chairman Castle stated an assimilative capacity allocation decision was presented at the first Commission meeting he attended and was unsure of the criteria that should guide such a decision. The Commission discussed the matter at a retreat and concluded that criteria which provided a systematic way of viewing such requests was appropriate. The Commission was unaware of any change requested for determining loading decisions. He did not believe any portion of the rule would create additional requests.

Additionally, Vice Chairman Castle said he did not find any language that suggested the proposed rule should be substituted for comprehensive basin planning, that conflicted with basin planning or that was inconsistent with basin planning. He stated the rule could be very useful in comprehensive planning and in situations where comprehensive plans do not exist.

Vice Chairman Castle viewed the proposed rule as a more systematic, rigorous method of dealing with the load allocation decisions. Regardless of whether a source is classified as major or minor, the environmental effect on the stream must be considered in addition to the environmental effect outside the stream. Another consideration is the point at which the discharge occurs and the impact on the total waters. Vice Chairman Castle said the proposed criteria require a comprehensive view and that

the criteria guide decisions, whether in the context of a comprehensive plan or on an ad hoc basis.

Mr. Churchill asked why the rule was not amended which would require the Department to declare any assimilative capacity in advance of application. In this way, the burden is on the Department to designate the assimilative capacity. Vice Chairman Castle stated that if the Department were to do as Mr. Churchill suggested, many requests would be made for use of that assimilative capacity.

Commissioner Sage asked why the Department anticipates an increase in requests for increased loading. Director Hansen responded that since the policy was established in 1976, the increased efficiency to accommodate growth was reasonably easy to accomplish. New treatment options are expensive to build and operate, making the allocation task more difficult. Director Hansen further noted that the language in the rule about the value of the reserve assimilative capacity provides that the Commission will not grant increases except in extraordinary circumstances.

Commissioner Sage expressed concern about the wording of the rule section on Adverse Out-of-Stream Impacts at the bottom of page A-2 and top of page A-3. Her concern referred to the wording that seems to reflect economic considerations rather than environmental considerations. After some discussion, the Commission concluded the section should be reworded as follows:

Page A-2, A-3; OAR 340-41-026 (3)(b)(A)(i)

- (i) Adverse Out-of-Stream Effects. There may be instances where the nondischarge or limited discharge alternatives may cause greater adverse environmental effects than the increased discharge alternative. ~~[Examples of such adverse impacts may include energy consumption and greater operating skill requirements of "high-tech" treatment facilities or]~~ An Example may be the potential degradation of groundwater from land application of wastes.

Director Hansen suggested the Department report back in September, as part of the strategic planning process, with resource availability and a timeframe for accomplishing basin planning. Also, he suggested a meeting be held with dischargers and environmental groups prior to September for discussing these issues. Vice Chairman Castle expressed the consensus of the Commission that this item be on the agenda in September.

Commissioner Sage said she would like to delete the last sentence of the section, Cost of Treatment Technology, at the top of page A-4, since the comparison seemed inappropriate. After some discussion, the Commission concluded that the section be reworded as follows:

Page A-4; OAR 340-41-026(3)(b)(B)(ii)

- (ii) Cost of Treatment Technology. The cost of improved treatment technology, nondischarge and limited discharge alternatives shall be evaluated. ~~[This evaluation shall consider the relationship of costs to those experienced by other similar facilities and whether the costs may be unduly burdensome or inequitable.]~~

Mr. Nichols presented an additional proposed amendment which had been agreed to among Mr. Gaffi and staff about the language in (B) Economic Effects Criteria on page A-3. The current wording precluded consideration of economic criteria except in cases where the environmental effects of increased loadings is less than other alternatives. This language seemed to preclude economic considerations in cases where environmental effects of alternatives were similar. The proposed amendment is as follows:

Page A-3; OAR 340-41-026 (3)(b)(B)

- (B) Economic Effects Criteria. When assimilative capacity exists in a stream, and when it is judged that increased loadings will ~~[have less]~~ not have significantly greater adverse environmental effects than other alternatives to increased discharge, the economic effect of increased loading will be considered. Economic effects will be of two general types:

The Commission concurred in the proposed amendment.

Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously approved that the Department's recommendation with the three amendments noted above be approved.

Mr. Churchill requested that requests from sources for increased loadings be listed and provided prior to the proposed workshop participants on comprehensive river basin planning. Director Hansen asked department staff to provide available statistics and data to the workshop.

Agenda Item L: Total Maximum Daily Loads (TMDLs) for the Yamhill River.

The purpose of this agenda item was to request adoption of rules to establish instream total phosphorus criteria for the Yamhill, South Yamhill and North Yamhill Rivers. This criteria provides the basis for establishing the total maximum daily load (TMDL), waste load allocations (WLA) and load allocations (LA) for phosphorus in the Yamhill Basin by defining the assimilative capacity of the Yamhill River for nutrient loads.

The proposed rule would identify the assimilative capacity of the Yamhill River for nutrient loads, establish instream criteria for total phosphorous, define the timeframe for the Department to publish interim allocations derived from the criteria in the rule and define the timeframe for point sources to submit program plans which describe strategies and options for achieving specified phosphorous load limits.

Don Schut, City of McMinnville, spoke to the Commission about the progress the city had made and expressed appreciation to the Water Quality Division staff for their assistance. Mr. Schut indicated that although the city was ahead of schedule, the timeframe was difficult and expensive.

Recommendation: The Department recommended the Commission adopt the proposed rule as presented in Attachment A.

Action: It was **MOVED** by Commissioner Sage, seconded by Commissioner Brill and unanimously passed that the Department's recommendation be approved.

Agenda Item N: Chem-Security Systems, Inc. (CSSI) Permit - Approval of Modifications to the Permit for the Hazardous Waste Disposal Facility at Arlington.

The purpose of this agenda item was to approve modifications to the Chem-Security Systems, Inc. permit for the hazardous waste disposal facility at Arlington. The permit modifications were requested by the permittee to address operating unit modifications, operating changes and clarify permit language to more precisely define the facility's rights and responsibilities.

Recommendation: The Department recommended the Commission approve the proposed modifications to Chem-Security Systems, Inc. hazardous waste disposal facility in Arlington.

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Action: It was **MOVED** by Commissioner Brill, seconded by Commissioner Sage and unanimously passed that the Department's recommendation be approved.

Agenda Item 0: Informational Report - State/EPA Agreement (SEA) Final Review.

The purpose of this agenda item was to provide the Commission with information about the public hearing and the proposed State/EPA Agreement. The State/EPA agreement is an annual agreement between the Department of Environmental Quality and EPA and establishes mutual understanding of program priorities and expected accomplishments for the next fiscal year (July 1, 1989, through June 30, 1990). The SEA becomes the basis for federal funding assistance to DEQ.

Recommendation: The Department recommended the Commission accept the information report.

Action: The Commission accepted the report by consensus.

Other Business

Chairman Castle commented on the Consultant's Report on the Director's Management Style. He expressed concern about the private sector comparisons in the report.

There was no further business and the meeting was adjourned at 1:30 p.m.


STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: July 14, 1989

TO: Environmental Quality Commission

FROM: Fred Hansen 

SUBJECT: EQC Work Session on Thursday, July 20, 1989

Attached are three documents to provide background for the Work Session Discussion of the proposed new WTD Pulp Mill near Clatskanie on the Columbia River and the proposed expanded Pope and Talbot Mill near Halsey on the Willamette River.

1. An Overview of the Pulp and Paper Industry

This document provides general background information on the industry in general and in Oregon.

2. A staff Memo to the Commission summarizing the proposal presented by WTD for a proposed new pulp mill on the lower Columbia River.

3. A staff document which summarizes the proposal presented by Pope and Talbot for expansion of their Halsey pulp mill.

We would anticipate a brief staff presentation to start off the work session Thursday morning, followed by questions and discussion. The afternoon field trip to the Pope and Talbot mill will help to put the issues that will be before the Commission in perspective.

AN OVERVIEW OF THE PULP AND PAPER INDUSTRY

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AN OVERVIEW OF THE PULP AND PAPER INDUSTRY

I. INTRODUCTION

The pulp, paper and paperboard industry is one of the largest industries in the United States. The industry consists of over 700 operating mills, varying in size, age, location, raw material usage, products manufactured, production processes, and environmental control systems. This highly diversified industry comprises not only the primary production of wood pulp and paper, but also the use of non-wood pulp materials such as jute, hemp, rags, cotton linters, bagasse and esparto. End products include stationery, tissue, printing papers, newsprint, boxes, builders' papers, and many other grades of industrial and consumer papers. The industry is highly sensitive to changing demands for paper and paperboard

products, and is constantly adjusting to changes in market conditions. Mills often expand or modify their operations to accommodate new product demands or a different mix of raw materials.

Currently, there are eleven (11) operating pulp and paper mills in Oregon. Table I shows the name, location and type of pulping process being used in the mills.

In the 1960's and early 1970's, there were fourteen pulp and paper mills in the state of Oregon. Six of them were sulfite mills. As a result of changes in economics, consumer product demands, raw material availability, and environmental control requirements, the mills have either expanded production, altered production processes, or

Table I Pulp and Paper Mills in Oregon

<u>Name</u>	<u>Location</u>	<u>Receiving Stream</u>	<u>Type of Pulping Process</u>
Boise Cascade Corporation	St. Helens	Columbia River	Bleached Kraft (chemical)
Georgia Pacific Corp.	Toledo	Pacific Ocean	Unbleached Kraft (chemical)
International Paper	Gardiner	Pacific Ocean	Unbleached Kraft (chemical)
James River Corp. (formerly Crown Zellerbach)	Wauna	Columbia River	Bleached Kraft (chemical)
James River Corp. (formerly Crown Zellerbach)	West Linn	Willamette River	Groundwood (mechanical)
Pope and Talbot (formerly American Can Co.)	Halsey	Willamette River	Bleached Kraft (chemical)
Smurfit Newsprint Corp. (formerly Publishers Paper Co.)	Newberg	Willamette River	TMP/RMP/Deink (mechanical)
Smurfit Newsprint Corp. (formerly Publishers Paper Co.)	Oregon City	Willamette River	TMP/Deink (mechanical)
Weyerhaeuser Company (formerly Menasha Corp.)	North Bend	Pacific Ocean	NSSC (chemical)
Weyerhaeuser Company	Springfield	McKenzie River	Unbleached Kraft (chemical)
Willamette Industries (Western Kraft)	Millersburg (Albany)	Willamette River	Unbleached Kraft (chemical)

NOTE:

- TMP - Thermo-mechanical pulp
- RMP - Refiner-mechanical pulp
- NSSC - Neutral Sulfite Semi-Chemical
- Deink - Removal of ink and other color pigment materials

closed down. Three mills (Coos Head Pulp Co. - Coos Bay, Crown Zellerbach - Lebanon, and Boise Cascade - Salem) have closed. Others (James River - Oregon City, Smurfit -Newberg, and Smurfit - West Linn) were converted to TMP, RMP and Deink operations and eliminated chemical pulping. Today, no sulfite mills are operating in Oregon. Most of the mills in operation today have expanded during the last 15 years. Twenty years ago, a 300 ton per day mill was considered an economic size. Today, economics is driving the industry to mills in the 1000 to 1500 tons per day range.

Characteristics of the various pulping process will be further described in the next sections.

II. BASIC PRODUCTION PROCESSES

A. Raw material Preparation

During the nineteenth century, wood began to supplant cotton and linen rags, straw, and other less plentiful fiber sources as a raw material for the manufacture of paper products. Today, wood is the most widely used fiber source for the pulp, paper and paperboard industry. Wood accounts for over 98 percent of the virgin fiber sources used in papermaking.

Steps which may be required to prepare wood for pulping include log washing, bark removal and chipping. A mill may use all these steps, or none of them, depending on the form in which the raw materials arrive at the mill. In the past, Oregon pulp mills chipped whole logs at the mill to obtain chips for pulping. Today, chipped residue from saw mills (that used to be burned as waste in wigwam waste burners) is the principal source of chips.

B. Pulping Methodology

There are several methods for breaking down the wood chips into individual fibers for use in papermaking. In some, the wood is cooked with chemicals under controlled conditions of temperature, pressure, and time. These chemical pulping processes use different chemicals or combinations of them. Other methods separate the wood into fibers by mechanical means alone,

or by the combination of chemical and mechanical action. The primary types of pulping process employed are: 1) mechanical pulping; and 2) chemical pulping.

1. Mechanical Pulping.

Mechanical pulp, commonly known as groundwood, is produced by two basic processes: 1) stone groundwood, in which pulp is made by tearing fiber from wood blocks with a grindstone; and 2) refiner groundwood, in which pulp is produced by passing wood chips through a disc refiner.

In the chemi-mechanical modification of the process, wood is softened with chemicals to reduce the power required for grinding. In the thermo-mechanical pulping, chips are first softened with heat and then refined under pressure.

Production of mechanical pulp is relatively inexpensive and requires slightly less use of forest resources. The mechanical pulp processes are referred to as high yield processes. A ton of wood or chips (2000 lbs.) will generally yield over 1800 lbs. of usable pulp fiber -- a yield of over 90 percent. However, the process does not remove most of the natural wood binder (lignin) and resin acids inherent in the wood; therefore, mechanical pulp deteriorates quite rapidly. An observable yellowing, resulting from natural oxidation of the impure cellulose, occurs early in the life of such papers, and a physical weakening soon occurs. Thus, the use of significant quantities of mechanical pulp in higher quality grades of paper requiring permanence is not generally permissible. However, mechanical pulp is suitable for use in wide variety of consumer products including newspapers, tissue, catalogs, one-time publications, and throw-away molded items.

Today, 3 mills in Oregon rely on mechanical pulping processes for the pulp produced at the mill. These are James River at West Linn, Smurfit at Oregon City, and Smurfit at Newberg. These mills import some Kraft pulp to blend with the mechanical pulp to improve product strength.

2. Chemical Pulping

Chemical pulping involves controlled conditions and chemicals to produce a variety of pulps with unique properties for conversion into paper products that have high quality standards or require special properties. There are three basic types of chemical pulping: 1) alkaline (sulfate); 2) acid (sulfite); and 3) semi-chemical.

a. Alkaline Pulping

The initial alkaline pulping process developed in the nineteenth century was called the soda process. This was the alkaline forebearer of the kraft process, which produces a stronger pulp and is currently the dominant pulping process in the world. The term kraft is taken from a German word that means "strong." This is a logical name for kraft pulp since it is stronger than pulp from the sulfite or the soda process from which the kraft process evolved. Early in the twentieth century, the kraft process became the major competitor of the sulfite process for some grades of pulp. Kraft pulp accounts for over 80 percent of the chemical pulp produced in the United States today. Sulfite is still preferred for some products, but the role of kraft continues to increase, while sulfite production is declining.

Several major process modifications/achievements have contributed to the wide spread application of the kraft process. First, because of the increasing cost of chemicals used, chemical recovery and reuse became an economic necessity of this process. In the 1930's, successful chemical recovery techniques were applied and have since been vastly improved. Second, the process was found to be adaptable to nearly all wood species; application to the pulping of southern pines resulted in a rapid expansion of kraft pulping. Third, new developments in the kraft bleaching techniques spurred another dramatic growth period in the late 1940's and early 1950's.

The kraft process embodies three major phases:

- 1) **Cooking and Washing**, during which the wood chips are converted to pulp by the action of an alkaline cooking liquor in a digester with elevated temperature and pressure. Sufficient time is allowed for the pulping reactions to take place so that the chemicals in the liquor dissolve certain wood components (primarily

the part called lignin). After adequate cooking, the mixture is discharged into a blow tank and subsequently pumped to washers where the spent chemicals and wood residues are separated from the pulp.

- 2) **Evaporation and Chemical Recovery**, in which the solution of spent chemicals and wood residues is concentrated in evaporators and burned in a recovery furnace so that the spent chemicals can be recovered. This is an important function since it is primarily through the recovery of chemicals that the kraft process enjoys an economic advantage over the sulfite process. Four principal operations take place here: a) concentration of spent chemicals; b) disposal of organic wood waste residues by burning; c) generation of steam; and d) recovery of inorganic chemicals.
- 3) **Causticizing and Lime Recovery**, in which the spent chemicals are converted into active alkaline cooking liquor by reacting in a slaker (a vessel in which lime or calcium compounds are mixed with water) and causticizing tanks with hot lime that has been recovered from lime sludge by heating in a lime kiln.

Mills using the Kraft Process in Oregon include Boise Cascade at St. Helens, Georgia Pacific at Toledo, International Paper at Gardiner, James River at Wauna, Pope & Talbot at Halsey, Weyerhaeuser at Springfield, and Willamette Industries at Albany.

b. Sulfite Pulping

Sulfite pulps are generally associated with the production of both tissue and fine papers. In combination with other pulps, sulfite pulps have a variety of paper making capabilities. In addition, dissolving pulps (i.e., the highly purified chemical cellulose used in the manufacture of rayon, cellophane, and explosives) were produced solely by the sulfite process for many years. Since the cooking liquor is acid, the "acid plant" is the heart of the sulfite mill. The acid for cooking is produced by converting elemental sulfur to sulfur dioxide and bringing this gas in contact with water in the presence of limerock. After fortification, the acid is pumped to the digester.

The cooking and pulp washing processes are very similar to those in the kraft process.

Sulfite pulping developed using calcium (lime slurry sulfited with sulfur dioxide) as the sulfite liquor base, because of an ample and inexpensive supply of limestone. The use of calcium as a sulfite base has declined in recent years because: 1) it is difficult and expensive to recover or burn spent liquor from this process; 2) the lack of spent liquor recovery makes it difficult to comply with water quality standards and effluent limitations; and 3) the availability of softwoods, which are most suitable for calcium-base pulping, is diminishing. In addition, attempts to use more than about 10 percent of the spent liquor in various byproducts failed. As a result, most remaining sulfite mills have changed from a calcium base to a soluble base (magnesium, ammonia, or sodium), to permit recovery or incineration of the spent liquor.

Today, no sulfite mills remain in Oregon. Of the six original sulfite mills, 4 initially converted to a magnesium or ammonia base to permit chemical recovery to meet water quality concerns in the late 1960's and early 1970's. Two of the mills that initially converted have now been closed. Three of the original six sulfite mills continue today as mechanical pulp producers.

c. Semi-Chemical Pulping

Early applications of the semi-chemical process in the nineteenth century consisted of the cooking of chips with neutral or slightly alkaline sodium sulfite solution. This is termed neutral sulfite semi-chemical pulping (NSSC). The NSSC process gained rapid acceptance because of its ability to use the vast quantities of inexpensive hardwoods previously considered unsuitable for producing quality pulp. Also, the quality of stiffness which hardwood NSSC pulps impart to corrugating board and the large demand for this material have promoted a rapid expansion on the process.

The future of NSSC pulping depends on the development of economic chemical recovery systems and nonpolluting chemical disposal. In the past, the small size of mills, the low organic content and heat value of the spent liquor, and

the low cost of cooking chemicals provided little incentive for the large capital investment for NSSC chemical recovery plants. Somewhat lower cost fluidized bed recovery systems have been extensively used in these mills. However, with an ammonia base, only sulfur dioxide recovery is practiced, so recovery economics are marginal; and with sodium base a by-product saltcake (Sodium Sulfate) is obtained, which cannot be recycled. Sales of this material to alkaline pulp mills have been very limited because of variable composition.

Some advances have been made in semi-chemical pulping process technology with respect to liquor recovery systems. There are basically three no-sulfur semi-chemical processes: 1) the Owens-Illinois Process; 2) the soda ash process; and 3) the modified soda ash-caustic pulping process. The present use of the patented Owens-Illinois soda ash-caustic pulping process permits ready recovery of sodium carbonate.

There has been a significant increase in combined Kraft (alkaline) semi-chemical mills with cross-recovery liquor systems. A balanced operation, using the semi-chemical side for total mill chemical make-up, permits a ratio of about 4:1 Kraft:NSSC. Use of green liquor as part of the semi-chemical cooking liquor gives a new flexibility to balanced operations, and it permits greater semi-chemical production while maintaining a balanced liquor system.

The Weyerhaeuser mill at North Bend is the only straight NSSC mill in Oregon. The Willamette Industries mill at Albany uses the NSSC process for a small percentage of their pulp, and operates a cross recovery system.

C. Bleaching

The pulp produced by the above processes is brown or deeply colored because of the lignins and resins remaining in the pulp, and sometimes because spent cooking liquor remains unwashed from the pulp. In order to remove the color from the pulp and produce a light colored or white product, bleaching processes are used.

The degree of pulp bleaching for paper manufacture is measured in terms of "units of

brightness" and is determined optically using methods established by the Technical Association of the Pulp and Paper Industry. By different degrees of bleaching, pulp of the desired brightness can be manufactured up to a level of 96 on the brightness scale of 100. Partially bleached pulps are employed in making newsprint, food containers, and similar papers. Fully bleached pulp is used for white paper products.

Bleaching is frequently performed in several stages in which different chemicals are used. The symbols commonly used to describe a bleaching sequence are shown as follows:

- A Acid Treatment or Dechlorination
- C Chlorination
- D Chlorine Dioxide
- E Alkaline Extraction
- H Hypochlorite
- HS Hydrosulfite
- O Oxygen
- P Peroxide
- PA Peracetic Acid
- W Water Soak
- () Simultaneous Addition of the Respective Agents
- / Successive Addition of the Respective Agents Without Washing in Between

As an example, the common kraft pulp bleaching sequence is labeled CEDED, and can be interpreted as follows:

- C = chlorination and washing;
- E = alkaline extraction and washing;
- D = chlorine dioxide addition and washing;
- E = alkaline extraction and washing; and
- D = chlorine dioxide addition and washing.

Almost all sulfite pulp is bleached, but usually a shorter sequence such as CEH is sufficient to obtain right pulps from this lower yield product with an inherently lower residual lignin content.

D. Papermaking

Some mills manufacture paper and/or paperboard, but do not make pulp. These are called non-integrated paper mills, and the pulp they use is either shipped from another segment of the company's facilities or purchased. Pulp mills that do not have attendant papermaking operations are a major source of pulp for these non-integrated mills. Pulp may also be provided by integrated mills that produce pulp for their own papermaking, plus "market" pulp for sale to non-integrated operations.

The papermaking process has basic similarities regardless of the type of pulp used or the end-product produced. A layer of fiber is deposited from a dilute water suspension of pulp (furnish) on a fine screen, called the "wire", which permits the water to drain through and retains the fiber layer. This layer is then removed from the wire, pressed, and dried. Two basic types of paper machines and variations thereof are commonly employed. One is the cylinder machine in which the wire is on cylinders which rotate in the dilute furnish. The other is the "fourdrinier" in which the dilute furnish is deposited upon an endless wire belt. Generally, the fourdrinier is associated with the manufacture of paper, and the cylinder with heavier paperboard grades.

E. Use of Secondary Fibers

In recent years, secondary fiber sources, such as waste paper, have gained increasing acceptance as a raw material fiber source. Many uses of such secondary fiber allow its use without processing. Other uses, however, require that the reclaimed waste papers be "deinked" before reuse.

1. Deinking

Deinking of waste paper was a commercial application developed during the nineteenth century. However, the large scale operations existing today developed much more recently. Materials which must be removed in order to reclaim a useful pulp include ink, clay fillers, coatings and other noncellulosic materials. Deinking pulp is used in business, bank and printing papers, tissue and toweling, as a liner for some paperboard, and in molded products and newsprint.

The existing use of detergents and solvents in the deinking process, instead of harsh alkalis, has permitted effective reuse of many previously uneconomical types of waste paper. Similar advances, such as flotation deinking and recovery of waste sludge by centrifuges, may yield more effective deinking processes with inherently lower waste loads as development proceeds. Presently, however, the secondary fiber field is critically dependent upon balancing available waste paper type with the demands of the product produced. Upgrading is difficult and costly, with the inherently high discharge of both Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) to ensure adequate deinked pulp quality.

The two Smurfit Mills at Oregon City and Newberg are the only ones in Oregon to use a deinking process. The process they use was developed through research programs conducted by Publishers Paper at the Oregon City Mill during the 1960's and 1970's.

2. Non-Deink Waste Paper Application

Some waste paper can be used with little or no preparation, particularly if the waste paper is purchased directly from other mills producing a similar product grade. Such material is relatively free of dirt and can sometimes be directly "slushed" or blended with other virgin pulp to provide a suitable furnish for the paper machine. The only cleaning and screening performed in such applications would occur with the combined stock in the paper machine's own stock preparation system.

Mills making low quality paper products, such as industrial tissue, coarse consumer tissue, molded items, builders' papers and paperboard, may rely extensively on waste paper in the raw material supply. Such operations typically involve a dispersion process using warm recycled paper machine whitewater, followed by coarse screening to remove gross contamination and debris that may have been received with the waste paper. More extensive fine screening and centrifugal cleaners may then be used before the paper making step.

Higher quality products such as tissue, printing

and other quality grades, may use small percentages of waste paper. These products require clean, segregated waste paper and a more extensive preparation system, usually including a deinking system.

III. ENVIRONMENTAL QUALITY CONTROL

A. Wastewater Control Technologies

The Federal Clean Water Act establishes a nationally uniform framework for minimum wastewater treatment and control requirements for the pulp and paper industry (as well as other industries and municipalities). All mills are required to meet effluent guidelines which define "best practicable control technology" (BPT) for "conventional pollutants". The guidelines are established in rules by the Environmental Protection Agency (EPA). Mills are also required to meet guidelines which define "best available technology" (BAT) for designated toxic pollutants. If the requirements of these guidelines are insufficient to achieve and maintain compliance with water quality standards for the receiving water, total maximum daily loads (TMDLs) must be established and more stringent controls are required to meet the TMDL (and the water quality standards).

EPA has established effluent guidelines for three conventional pollutants: Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), and Hydrogen ion concentration (pH). BAT effluent guidelines for Pentachlorophenol and Trichlorophenol were added in 1982. As new information becomes available on potentially toxic substances, additional BAT requirements for effluent control are developed and imposed nationwide.

EPA has also established New Source Performance Standards for the pulp and paper industry. These requirements are generally more stringent than the BPT guidelines for existing sources.

Oregon's rules are generally consistent with the EPA requirements. The combination of policies and standards adopted by the EQC require that industries seek to (1) minimize the generation of

wastes in the manufacturing process, (2) employ "highest and best practicable treatment and control" technology to minimize waste discharges, and (3) provide such further controls as may be necessary to comply with water quality standards.

In order to meet the federal effluent guidelines for conventional pollutants for the pulp, paper and paperboard industry, the following technologies are generally used:

1. Primary Treatment (Removal of Suspended Solids)

Pulp and paper mill wastewater must often be screened to remove materials that could seriously damage or clog downstream treatment equipment. Fixed or automatically cleaned screens are commonly employed prior to primary treatment.

The primary treatment process of removing suspended organic and inorganic materials can be accomplished by sedimentation, flotation, or filtration. Sedimentation processes rely on gravity settling of suspended solids and can involve mechanical clarifiers or sedimentation lagoons.

The most widely applied technology for removing suspended solids from the process effluent is the mechanical clarifier. Circular tanks of concrete construction are normally used with rotating sludge scraper mechanisms mounted in the center. The wastewater usually enters the tank through a well that is located on a center pier. Clarified wastewater overflows weirs at the outer edge of the tank. Settled solids are raked to a center sump. The settled solids are generally conveyed to solids dewatering facilities prior to disposal. Floating material is collected by a surface skimmer attached to the rotating mechanism, discharged to a hopper and is then properly disposed of.

Sedimentation lagoons utilize little mechanical equipment and require larger land area. Generally, multiple lagoons are necessary so that one at a time can be removed from service and dewatered so that accumulated solids can be removed and disposed of.

Air flotation units have limited application and are used where addition of air will cause solids to

float to the surface where they can be skimmed off. Such units can be used to handle the wastewater containing solids which do not readily settle.

Filtration technology is not widely used for wastewater treatment in the pulp and paper industry. The large volumes and nature of wastewater to be treated make the use of this technology impractical in most cases.

Most mills in Oregon use mechanical clarifiers for removal of suspended solids. The Willamette Industries mill at Albany uses a series of earthen settling lagoons.

Solids removed in the primary treatment systems are generally unsuitable for reuse in the pulp mill and are either incinerated or disposed of by landfilling.

2. Secondary or Biological Treatment

Biological treatment (also called secondary treatment) processes are used to reduce the pollutants which can cause depletion of dissolved oxygen in the receiving waters. Fish and other aquatic organisms are particularly sensitive to reduced levels of dissolved oxygen. Significant reductions in some toxic pollutants have also been observed through application of biological treatment. When adequately designed and operated, biological treatment consistently achieves 80 to 90 percent and higher reduction of pollutants as measured by the Biochemical Oxygen Demand (BOD₅) test. Biological treatment can also yield an effluent that is non toxic a high percentage of the time as measured by standard toxicity tests.

Currently, the most common types of biological treatment used in the pulp, paper and paperboard industry include oxidation basins, aerated stabilization basins, and the activated sludge process or its modifications. Other biological systems include oxygen activated sludge, rotating biological contactors and anaerobic contact filters.

a. Oxidation Basins. This type of biological treatment facility consists of large natural or manmade basins of various depths that rely on natural aeration from the atmosphere as

an oxygen source. Since oxidation through natural aeration results in a relatively low-rate process, large land areas are required to implement this technology. Most oxidation basins are found in southern states because of availability of land and a warm climate that increases bioactivity.

- b. Aerated Stabilization Basins (ASB). The ASB evolved from the necessity to increase performance of existing oxidation basins due to increasing effluent flows and/or more stringent water quality standards, or to accomplish the required treatment with smaller basins using less land area. Induced aeration provides a greater supply of oxygen, thus substantially reducing the retention time required to achieve treatment comparable to that attained in an oxidation basin.

Nitrogen and phosphorous (nutrients) are usually added to enhance biological activities. Aeration is normally accomplished using either gear-driven turbine type surface aerators or direct-drive axial flow-pump aerators. Depending on the retention time, an 8 to 10 day ASB can produce an effluent less than 30 mg/l of BOD₅. Low capital and operating costs, and good reliability and stability of operation are the prime advantages of this technology.

With extended operation of these facilities, biological solids tend to accumulate, causing the operating efficiency to degrade. Odor problems can also occur when solids accumulate and decompose in the basins. Thus, proper operation requires periodic inspection to detect solids accumulation and removal by dredging when appropriate.

- c. Activated Sludge Process. The activated sludge process is a high-rate biological wastewater treatment system. The biological mass grown in the aeration tanks is settled in a secondary clarifier, similar to those units utilized in the primary treatment system, and returned to the aeration tanks. Since biological organisms are in continuous circulation throughout the system, complete mixing and suspension of solids in the aeration basin is required. Mechanical

surface aerators similar to those used in the ASB are normally used; diffusion of air and induced jet aeration can also be used. These systems are more complex to operate and relatively susceptible to upset due to shock loads. Since the process requires less land than ASB's, it may be preferred in cases where sufficient land for ASB installation is either unavailable or too expensive. The Oxygen Activated Sludge Process and Contact Stabilization Process are variations of the basic Activated Sludge Process.

- d. Rotating Biological Contactor and Anaerobic Contact Filters. These are biological treatment systems in which various growth media, such as rock or circular plastic discs are utilized to enhance biological activities.

All the pulp mills in Oregon except one currently use aerated stabilization basins to meet the effluent guidelines for BOD₅. The Weyerhaeuser Mill at North Bend has relied on an oxidation basin; however, they are proposing to add aerators to improve its performance.

Solids removed from the secondary treatment systems are generally disposed of by landfilling or spreading on land as a soil amendment.

3. pH Control. Where necessary to meet pH limits, mills traditionally add either acid or caustic to adjust pH to within allowable limits. At present, no mills in Oregon find it necessary to adjust pH to meet final effluent limits.
4. Other Control Approaches. Effluent holding and seasonal discharge is a "conventional" waste control strategy that may be used to assure compliance with water quality standards. Large holding basins or lagoons are used to store treated effluent and reduce or eliminate discharges during selected limited periods. The stored wastewater is then released during periods when adverse environmental effects will not be created.

This technology was extensively used in Oregon in the 1950's and 1960's for the sulfite pulp and food processing industries in the Willamette Basin. At that time,

untreated wastewater was stored during the summer, low stream flow periods, and released to the river during high flows in the wet winter months. The storage/release facilities were phased out as treatment facilities (chemical recovery and secondary treatment) were installed in the late 60's and early 70's.

This technology is beginning to see increased usage today as treatment requirements become more stringent, and hence costly. At least 2 pulp mills in the United States are presently using this approach in addition to other treatment to meet water quality standards during seasonal periods of low stream flows.

In Oregon, this approach is presently still used by the Weyerhaeuser Mill at North Bend. The oxidation lagoon used at this facility had the capability to store waste and was therefore used to limit discharge to the Pacific Ocean during a 2 month period to assure no potential for adverse impact on larval stages of crabs.

The technologies required for meeting BAT effluent guidelines are not easily generalized. To date, EPA has established guidelines only for Pentachlorophenol and Trichlorophenol. These two compounds enter the pulp and paper process when a mill uses wood treated with these preservatives as a source of raw material. No mills in Oregon use treated wood for pulping, therefore controls have not been required. Effluent testing demonstrates the absence of these compounds in the effluent.

B. In-Plant Technologies to Control Wastes

Wastewater treatment facilities to remove/reduce conventional pollutants have been widely used by the pulp, paper and paperboard industry in the United States for many years. These technologies also have the added benefit of removing some toxic compounds.

In more recent years, attention has focused on process modifications or "in-plant control" to reduce the generation of wastes and minimize the loading on end-of-pipe treatment systems. The

in-plant control focus is a result of increasing waste treatment requirements and costs, concern for toxic pollutants, the need to accommodate plant expansions and increased production, and regulatory requirements of state and federal agencies.

Following are some of the process modifications that are being used to reduce the generation of pollutants:

1. Counter-Current Pulp Washers. Multi-stage counter current pulp washers were one of the first inplant technologies developed to reduce the volume of wastewater produced and increase the effectiveness of chemical recovery. In this process, fresh water is introduced at the last stage of pulp washing. The overflow from the last stage is used as the "wash water" for the next to the last stage, and so on. The waste constituents in the overflow from the first washing stage are quite concentrated and more suitable for recovery of chemicals.
2. Reuse of Digester Relief and Blow Condensates. Condensates contain high concentrations of organic material. Capture and reuse of condensates significantly reduced the BOD₅ in the wastewater discharged to treatment facilities.
3. Spill Collection and Control. Spills of cooking liquor and various chemicals, leaking pump packings, leaks, etc. all add pollutants to the wastewater treatment system if they are not contained. Extensive efforts to capture any such chemicals at the source for recycling and reuse are now routinely practiced at all mills. This process has the added advantage of reducing upsets to the treatment facility that frequently are caused by spills.
4. General Water Conservation. A wide variety of other water conservation measures are used and effective in reducing the volume of wastewater to be treated.
5. Cooking Process Modifications. The latest process control methods include variations in conventional cooking process such as "extended delignification" and "rapid

displacement heating (RDH)". Allowing extra cooking time and changing the injection methods for the cooking liquor into the digesters, results in additional lignin being removed from the pulp and a substantial reduction of chemicals required for the cooking process. The more effective removal of lignin during the pulping process has the effect of reducing the quantity of pollutants generated in the later pulp bleaching process.

6. Bleach Process Modifications. Bleaching processes vary widely from a single stage operation in groundwood and deinked mills, to three (CEH) stages in sulfite and semi-bleached alkaline mills, to the conventional five (CEDED) stages that are common in fully bleached alkaline mills. Today, several process modifications are being utilized in some new plants to reduce effluent flow and waste loads to the biological treatment system. These methods include the conventional "Countercurrent or jump-stage washing" and the latest "Oxygen Bleaching" and "Chlorine-Dioxide Substitution".

a. Oxygen Bleaching. Use of oxygen in alkaline extraction stages is a new technology of great interest to the industry. Its advantages include ease of operation, low capital cost, increased bleaching capacity, and decreased bleaching chemical cost. These advantages have led to rapid acceptance by the industry. Besides the above operating benefits, oxygen bleaching offers distinct advantages in terms of reductions of BOD₅, Chemical Oxygen Demand (COD), color, chloride, and solids in the effluent loads. The reported reductions range 30 to 90%. Oxygen Bleaching has the added benefit of reducing the use of Chlorine compounds and the related reduction in production of chlorinated organic compounds that are of increasing environmental concern.

b. Chlorine-Dioxide Substitution. Both elemental chlorine and chlorine dioxide have been found to be effective bleaching agents. If a large amount of elemental chlorine is replaced by chlorine-dioxide in

the first bleaching stage, the formation of organically bound chlorine (TOCl), mutagenic substances, and color is considerably reduced. Increased use of chlorine-dioxide also decreases the formation of chloride ions, thus facilitating reuse of bleach plant effluent in the pulp mill. Whenever such reuse is possible, it leads to further reduction in the waste loads to the biological treatment system.

In order to achieve desired bleached pulp quality, a modern bleach plant has typically used chlorine-dioxide for 5% of its bleaching. For the past decade, laboratory data demonstrate that the formation of Total Organically bound chlorine (TOCl) decreases linearly with increasing chlorine-dioxide substitution. Since then, substitutions of chlorine-dioxide for chlorine ranging from 10 to over 90% have been evaluated by the industry to reduce chlorinated organic compounds (which are considered to be toxic pollutants) in the bleach effluent.

The industry continues to explore other potential methods for bleaching pulp without the use of chlorine as a means of reducing the production of pollutants.

C. Air Quality Control Technologies

Major sources of air pollution from kraft pulp mills include recovery boilers, smelt dissolving tanks, lime kilns, power boilers, wastewater treatment ponds, and bleach plant vents. Minor sources include lime slakers, saltcake silos, pulp washing facilities, and chlorine dioxide plants. These sources produce particulate, carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (the criteria pollutants), a number of reduced sulfur compounds collectively referred to as total reduced sulfur (TRS), and toxic air pollutants.

1. Particulate The particulate emissions occur largely from the recovery furnace, the lime kiln, and the smelt dissolving tank. These emissions are mainly sodium salts, with some

calcium salts from the lime kiln.

Particulate control on modern lime kilns is provided by electrostatic precipitators. Resultant emissions may be as low as 0.04 grains per dry standard cubic foot. Lime kilns are generally controlled with scrubbers, although electrostatic precipitators are used in some cases. Scrubbers are also utilized to control smelt dissolving tank particulate emissions.

2. Gaseous Combustion Pollutants Nitrogen oxides, carbon monoxide, and volatile organic compounds are emitted by combustion units, including the recovery furnace, power boilers, and lime kiln. Proper design, operation, and maintenance of these units is required to optimize emission levels.
3. Odor The odor generally associated with kraft pulp mills is caused by the emission of the reduced sulfur compounds (TRS). The most common compounds are hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide. These compounds have extremely low odor thresholds. TRS is regulated as a welfare pollutant because of the nuisance potential, rather than for potential health effects. Emissions can occur from the digesters, evaporators, recovery boiler, smelt dissolving tank, lime kiln, and from other minor sources such as the pulp washers and the black liquor oxidation vents.

TRS emissions and the resultant odor problems can be controlled through modern plant design and operation. Efficient operation of the recovery furnace significantly reduces TRS emissions by conversion to sulfur dioxide. Gases from other sources can be routed to the lime kiln or another combustion device for incineration. Use of fresh water in lieu of contaminated condensate in the pulp washers and scrubbers also reduces TRS emissions.

4. Sulfur Dioxide Sulfur dioxide is emitted mainly from oxidation of reduced sulfur compounds in the recovery furnace and from the burning of sulfur containing fuel oils in

the power boiler. In a modern facility, recovery boilers can be operated to control sulfur dioxide emissions to 100 parts per million. Power boiler emissions are controlled via air quality regulations which limit the sulfur content of fuels sold in Oregon.

IV. CURRENT ENVIRONMENTAL ISSUES

The pulp and paper industry is an environmentally significant industry in Oregon. The potential for environmental impact from each mill is significant. Each mill uses a high level of technology to minimize generation of wastes and treat residuals to prevent unacceptable environmental impact. The industry supports extensive research to improve environmental control technology as well as product production technology.

The following discussion focuses on three environmental issues that are currently receiving intensive attention by the pulp and paper industry and regulators of the industry.

A. Dioxin and other Chlorinated Organic Compounds

Dioxin is a name given to a "family" of chemical compounds. The name refers to their basic structure: two oxygen atoms joining a pair of benzene rings. Substitution of chlorine atoms for hydrogen atoms on the ring produces a chlorinated dioxin, of which there are 75 congeners (family compounds) with various chlorine substituents. The chlorinated dioxin of recent interest is 2,3,7,8 Tetrachlorodibenzo-p-dioxin, usually abbreviated to TCDD, and is considered to be the most toxic of the 75 congeners. Since the carbon-chlorine bond is man-made and is not found in nature, compounds containing them can be difficult to decompose and most of them may have harmful environmental effects.

TCDD is a chemically stable, extremely lipophilic (fat soluble) molecule with limited solubility in water. Because of its chemical stability, TCDD does not easily break down in the natural environment. The bioconcentration factor for

TCDD is quite high (approximately 5500) and is due to the lipophilic nature of the chemical. The combination of chemical stability and lipophilic nature result in extreme persistence in the environment and a high rate of bioaccumulation.

The physico-chemical properties of the compound would suggest that in terrestrial (relating to land) systems TCDD would become tightly bound to soil particles and have low mobility. Aquatic studies have shown that TCDD is bioavailable to fish from sediment and flyash, and eventually accumulates in the fish organs and flesh.

The toxicity of TCDD is the most completely studied of all chlorinated dioxins. In aquatic and terrestrial animal studies (including sub-human primates) TCDD has caused adverse effects at very low doses. Effects exhibited from the various studies were death, carcinogenicity (cancer), teratogenicity (embryo abnormality), and immunotoxicity (immunity system). There has been a high rate of variability of responses between the tests.

On December 15, 1983, the Environmental Protection Agency (EPA) issued its Dioxin Strategy for identifying, investigating, and cleaning-up sites contaminated by dioxin, particularly TCDD. The major factors that led to the development of the Dioxin Strategy were: 1) the toxicity of TCDD; 2) the persistence of dioxins in soil and sediments; 3) the detection of dioxins at a variety of sites in the U.S.; and 4) the need for a systematic study to determine the extent of dioxin contamination.

The EPA strategy focused on TCDD primarily because it is thought to be the most toxic of the known dioxins and is the one about which the most is known. Based on the available scientific information at that time, EPA's Carcinogen Assessment Group determined that TCDD is an animal carcinogen and probably a carcinogen in humans. TCDD is the most potent animal carcinogen evaluated by EPA.

In 1984, EPA published a water quality criteria document which presented estimates of the increased cancer risk from consuming contaminated water and fish from those waters. The document reported an estimated increased

lifetime risk of one additional cancer in one (1) million people from drinking water and eating fish from waters contaminated at a concentration of 0.013 parts per quadrillion (ppq). EPA adopted this number as their water quality criteria for TCDD. EPA's risk assessment methodology assumed that the risk is primarily associated with the consumption of contaminated fish. (The Food and Drug Administration in 1981 had advised the State of Michigan that fish consumption should be limited if TCDD levels in samples of the edible portions were above 25 part per trillion (ppt) and should be banned if levels were above 50 ppt. This advisory was based on consumption patterns in the Great Lakes area.)

It should be noted that the commonly accepted limit for detectability for TCDD under current laboratory analytical technology is 10 ppq. This means that it is not possible to determine compliance with the EPA recommended water quality criteria of 0.013 ppq by laboratory analytical methods. The closest one can come to determining TCDD levels in waterways is by calculation based on dilution of known or assumed levels in effluents and assuming no loss or removal by other means.

In 1984, the Center for Disease Control (CDC) indicated that TCDD levels above one part per billion (ppb) in residential soils are of concern, particularly to children living in a contaminated area. Levels of concern in industrial areas would be somewhat higher due to the reduced potential for ingestion of contaminated soils, particularly by children. On the other hand, levels of concern in grazing areas are lower because of the potential for TCDD bioaccumulation in grazing animals. CDC guidelines indicate that soil concentrations of 6 ppt and 20 ppt can produce maximum allowable residues in milk and beef respectively.

Based on the EPA Dioxin Strategy and advisories from FDA and CDC, a National Dioxin Study (NDS) was initiated by EPA. NDS findings indicated that TCDD was found in native fish collected downstream from a number of pulp and paper mills (levels from <5 to 85 ppt), and in bleached kraft pulp and paper mill wastewater sludges (levels from <10 to 410 ppt). These findings led EPA and the American Paper Industry (API) to conduct a Five-Mill Study to

obtain more details on the generation of dioxin. The Five-Mill Study was initiated in 1986 and completed in 1987. The results from this study further led EPA and API to conduct a further study of 104 mills producing bleached pulp. Because of the long processing time required for TCDD analyses, not all results from the 104 mills are available yet. However, data from the studies is being made available to states and EPA for use as rapidly as laboratory results are completed.

During the last several years, pulp and paper industries throughout the western European countries, Canada, and United States have engaged in various studies to address the issue of dioxin and other chlorinated compounds. In western Europe, the leading countries are Sweden and Finland. These countries are concentrating their efforts in eliminating the generation of chlorinated organic compounds, including dioxin, from the pulping and bleaching processes. Oxygen Delignification and high Chlorine Dioxide Substitution are the production process changes they have developed.

Recently, the Swedish government established a goal requiring the pulp and paper industry to reduce the generation of chlorinated compounds via a phased reduction program and ultimately allowing a maximum discharge of 0.1 kg TOCl/tonne of bleached pulp by year 2010 (TOCl is Total Organically Bound Chlorine). The West German government has established a new restriction of 1.0 kg TOX/ton of pulp (TOX is Total Organic Halides). In Canada, several Provinces are imposing similar regulations on their pulp and paper operations. In British Columbia, the mills must meet the criteria of 2.5 and 1.5 kg of AOX/tonne of bleached product by year 1991 and 1994, respectively, while the province of Ontario establishes a <1.5 kg TOX/tonne as a goal for the industry within the next five years (AOX is Adsorbable Organic Halides). In the United States, control criteria have not yet been developed. EPA is on a schedule to establish the Best Available Technology criteria by 1992 or 1993.

In general, during the bleaching of kraft pulp, approximately 90 to 180 pounds of organic material is dissolved per ton of pulp produced. It is also found that 75% to 90% of the material is

produced in the first two stages of bleaching (CE stages). When elemental chlorine is used to bleach the pulp, some of the dissolved organic material in the bleach plant effluent will have chlorine atoms covalently bonded to the organic molecules. Approximately 10 pounds of organically-bound chlorine, which may include a small fraction of TCDD, is produced per ton of pulp bleached by the conventional method (CEDED).

Recent amendments to the federal Clean Water Act require states to list stream reaches that are not in compliance with standards and the point sources related to the non-compliance, and propose an individual control strategy in each case to achieve compliance. This list is referred to as the 304 (1) list and is part of the requirements in Section 308 of the 1987 Clean Water Act. The list and strategies were to be submitted by February 1989, approved by EPA by June 1989, and implemented by June 1992. DEQ submitted the required list to EPA. In late May, EPA advised that the list was unacceptable because it did not identify the stream reaches below the bleached Kraft mills in Oregon and propose related control strategies. When EPA made its decision in May, some data from the 104 mill study was available to them that was not available to the state when the list was submitted.

In response to EPA reaction and with consideration of the new data from the 104 mill study, DEQ submitted a revised list that identified the stream reaches below 3 bleached kraft mills in Oregon as being out of compliance with the state dioxin standard, based on professional judgement and dilution calculations. (DEQ adopted the EPA dioxin criteria of 0.013 parts per quadrillion along with EPA criteria for other toxic compounds by reference in September 1987.) The proposed control strategy submitted to EPA for each mill requires study and implementation of rapid interim control strategies to minimize dioxin generation by March 1, 1990, along with further study, development and implementation of such additional control strategies as are necessary to achieve standards compliance by June 1992. EPA approved the state submittal in June.

Since that date, DEQ has forwarded a proposed permit addendum to each bleached Kraft mill.

The permit addendum incorporates the proposed compliance schedule noted above. The Department is presently meeting with the permittees regarding the proposed addendum. Once the addendums are issued, the permittees will have the choice of appealing the Department's action to the EQC.

The Department is unable to predict the response of the permittees. In general, the pulp industry has expressed concern regarding the validity of the EPA criteria of 0.013 ppq. They question the appropriateness of the risk modeling assumptions made by EPA. EPA is re-evaluating this number based on new information and should confirm or update the criteria number sometime in 1990. They question the haste associated with proposed implementation of criteria when compliance cannot be determined. The industry is also concerned about the appropriateness of narrow focus on TCDD. Both industry and EPA question whether future consideration of other chlorinated organics will make current actions wasteful or inappropriate.

Finally, the pulp and paper industry appears to be genuinely concerned about the actual or potential presence of dioxin in their process wastewater. They appear committed to a technically sound approach for reduction to the greatest extent practicable. The discussion centers on what currently known technology will accomplish, how fast reductions can be accomplished, the availability and cost of whatever equipment is needed, and their ability to remain a viable and competitive industry as the necessary changes are implemented.

B. Wastewater Color

Most pulp and paper mill wastewater discharges to waterways impart a visible color to the water. This visible color has resulted in complaints by the public. The color has not been known to have adverse impact on aquatic life. It has been considered an "aesthetic problem". To date, technology to remove color has not been considered practicable because removal technology would produce environmental problems more significant than the "aesthetic problem" of color.

Major sources of color from the pulp mill are the caustic stage in bleaching, unbleached screening, and brown stock filtrates. Color removal from waste streams is a difficult problem confronting the pulp, paper and paperboard industry. First, the bleach plant effluents are of significant volume: typically, 20,000 gallons per ton of pulp. Second, it is believed that the colored bodies originate from lignin and lignin derivatives that are washed out of the cooked pulp. Since lignin is highly resistant to micro-biological degradation, it passes through biological treatment processes and makes the receiving waters brownish-black in color.

Since the early 1970's, the industry has been actively involved in a search for color removal technologies. Technologies reviewed and tried include: 1) chemical coagulation/precipitation using alum, lime, metal salts, organic polymers, and combinations thereof; 2) membrane filtration; 3) chemical oxidation; 4) electrolytic coagulation; and 5) adsorption.

1. Chemical Coagulation/Precipitation. This is the most common technology for the removal of turbidity or color bodies in the domestic water supply systems. Controlled dosages of the coagulants, such as lime or alum, are mixed with the turbid or colored water. After mixing, precipitates or floc will capture the suspended matter by agglomeration, electrophoresis and simple entanglement, and form clumps which are large and heavy enough to settle to the bottom of the settling basins. In the late 1960's and early 1970's, several pulp and paper mills utilized this technique to remove color and turbidity from their process effluents. These facilities found that large amounts of lime or alum were required to achieve the objective. Large amounts of waste material (sludge) were also created. Several sludge disposal alternatives including land application and incineration in lime kiln or boilers were evaluated and found to be unacceptable because of technical difficulties such as availability of land and contamination of process chemicals.

Recently, organic polymers have been used as the coagulant in two operations. Instead of using the settling phenomenon, flotation is

used to remove the thickened sludge, which is then subsequently burned in boilers. The extent of potential applicability of these processes has not been determined.

2. Membrane Filtration. This process uses semi-permeable membrane filter media to separate colloidal or suspended materials in the wastewater. Normally, wastewater is pressurized to permeate across the filtering media. After the filtering media are saturated and exhausted, the media require backwashing with either water, acid or alkali. Backwash materials are normally disposed by land application.
3. Chemical Oxidation. Color in the pulp mill effluent is believed to be lignin or lignin derivatives. Based on the knowledge of bleaching pulp and wood chemistry, the pulp, paper and paperboard industry is aware that lignin compounds can be further degraded by chemical oxidation. Several oxidants such as ozone and calcium hypochlorite (household bleach or hypo) have been found to be as effective as elemental chlorine, and hypo is the most cost effective.

In the 1980's and prior to 1987, Pope and Talbot - Halsey Mill used hypo in their process effluent to comply with the color limits established in their NPDES permit. The addition of excess hypo to remove color was terminated in 1987 after the EQC authorized the color limit to be removed from the Pope and Talbot permit. The Company was also required to explore options for color removal. This action by the Commission reflected a concern about the production of potentially carcinogenic chlorinated organic compounds with this color reduction methodology. In short, the Commission viewed the elimination of the permit color limit as the lesser of evils for the present time.

4. Electrolytic Coagulation. This color removal technique was only tried on bench scale. A direct current was applied across an electrolytic cell, containing the colored wastewater. The method was found to be effective in laboratory scale, but found to be

impractical (large number of electric cells and electrodes) in a full scale environment.

5. Adsorption. Activated carbon and polymeric resins are capable of removing color bodies and organic compounds in the wastewaters. Normally, resins or activated carbon are packed in series of columns, through which screened, filtered and pH-adjusted wastewaters are passed under pressure. Similar to the membrane filtration process, the exhausted resin columns require backwash with water and acid, while the activated carbon requires regeneration through a combustion process.

Out of the five (5) categories of color treatment technology, chemical coagulation/precipitation has been found to be effective to treat the pulp and paper process wastewater. However, the industry must undergo additional research in the final disposal of large amounts of waste sludge generated from the treatment process. Recently, new combustion techniques, such as fluidized bed combustion, and new ceramic lining materials for the combustion chambers have been developed and tried in pilot scale. After thorough testing and evaluation, these new developments may be a practicable solution to the color issue in the pulp and paper process wastewater.

C. Toxic Air Pollutants

Toxic air pollutants include any pollutants which are toxic in the environment and which are not specifically regulated under the Clean Air Act and the National Emission Standards for Hazardous Air Pollutants (NESHAPs). The toxic air pollutants of concern at pulp mills are generated by the bleaching process.

Chlorine bleaching results in the formation of large amounts of chloroform. Chloroform is a potential human carcinogen. Most of the chloroform is emitted to the atmosphere from the wastewater treatment ponds and, secondarily, through the bleach plant emission control equipment. The remaining chloroform is released to the receiving stream in the treated wastewater. Pulp mills have been identified as one of the most significant sources of toxic air pollutant emissions in the nation because of the chloroform

emissions caused by traditional chlorine bleaching processes.

The bleaching process also results in the emission of chlorine, chlorine dioxide, and methanol. These substances are toxic but are not considered to be carcinogenic. Emissions are believed to be within acceptable limits. As the substitution of chlorine dioxide for chlorine increases, the emissions of chloroform decrease and the emissions of the less toxic chlorine dioxide increase. Consequently, strategies which reduce the concentration of dioxin and other chlorinated organic compounds in the wastewater through process modifications are also effective in reducing the toxicity of air emissions.

V. APPROVAL PROCESSES FOR NEW OR EXPANDED MILLS

There are many permits and approvals that must be obtained before construction can begin on a proposed new or expanded pulp and paper mill. Two of the most significant are Land Use Approval and Issuance of Environmental Permits. DEQ's permit processes require a statement of land use compatibility to be submitted as part of the permit application.

Following is a brief discussion of the process for obtaining significant permits and approvals from DEQ.

A. NPDES Permitting and Approval Process

In accordance with the Clean Water Act, Oregon Revised Statute, and Oregon Administrative Rules (OAR), any person wishing to discharge or dispose of wastes into public waters is required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit from the Department of Environmental Quality (DEQ). Details of the permit process are listed in OAR Chapter 340, Divisions 14 and 45.

Highlights of the permit process are as follows:

- 1) The applicant submits an application for the NPDES permit;
- 2) Within 15 days after filing, DEQ will determine completeness of the application;

- 3) With the assumption that the application is complete and with all supporting documentation, DEQ will prepare, within 45 days, a proposed permit for the applicant to review and comment;
- 4) The applicant has 14 days to send written comments on the proposed draft permit;
- 5) Assuming there are not any comments from the applicant, DEQ will notify the general public, for a period of 30 days and/or schedule a hearing so that the public can voice concerns on the application and on the proposed draft permit;
- 6) DEQ will evaluate public comment, and develop a final recommendation for issuance or denial of the permit;
- 7) The applicant is notified of the Department's final action on their application.
- 8) If the applicant is not satisfied with the conditions listed in the permit, the applicant can, within 20 days, request a contested case hearing before the Environmental Quality Commission;
- 9) After considering all inputs from the applicant and DEQ in the contested case proceeding, the Commission will make a final determination.

Water quality rules also require that the Environmental Quality Commission specifically authorize major new source waste load discharges to public waters or increases in the waste load discharged from major existing sources. The Department, as a matter of internal practice, evaluates all such requests. If the Department concludes that the request meets all rules, it forwards the request to the Commission with a recommendation for approval. Commission action would generally occur following step 6 in the above process.

B. Air Contaminant Discharge Permit

In accordance with the Clean Air Act, Oregon Revised Statutes, and Oregon Administrative Rules, any person wishing to construct a regulated air contaminant source must first obtain an Air Contaminant Discharge Permit from DEQ. Details of the permit process are listed in OAR Chapter 340, Divisions 14 and 20.

Specific rules on new major sources of air

contaminants are applicable to pulp mills. These Prevention of Significant Deterioration (PSD) rules require application of Best Available Control Technology, as determined on a case-by-case basis, and computer modelling to demonstrate that the emissions would not exceed ambient impact criteria, in addition to the requirements for all sources. New pulp mills are also subject to the federal New Source Performance Standards for pulp mills which are incorporated in Division 25 of OAR Chapter 340.

The permit process is essentially the same as that described above. However, the PSD rules allow 30 days for determination of the completeness of an application and up to six months to process the completed application. There is also a requirement to solicit input from the appropriate federal land managers, if the source would be located near a wilderness area or national park.

C. Other Permits and Approvals

1. 404 Permit Any project that requires placement of dredged or fill materials in a waterway or in a wetland area must obtain a permit pursuant to section 404 of the Federal Clean Water Act from the U.S. Army Corps of Engineers. Before any such permit can be issued, DEQ must certify that the proposed dredge or fill activity will not cause a violation of water quality standards (pursuant to Section 401 of the Federal Clean Water Act). Rules governing 401 certification are found in OAR Chapter 340, Division 48.

2. Review and Approval of Construction Plans and Specifications Oregon law and DEQ rules require that plans for air and water pollution control facilities be submitted for review and approval prior to construction. DEQ permits also usually require submittal of various plans and information to provide final assurance that facilities will meet the environmental standards and conditions contained in the permit.

APPENDIX

A LIST OF COMMONLY USED ACRONYMS

- ASB - Aerated Stabilization Basin
- AOX - Adsorbable Organic Halides
- BOD - Biochemical Oxygen Demand
- COD - Chemical Oxygen Demand
- NPDES - National Pollutant Discharge Elimination System
- NSSC - Neutral Sulfite Semi-Chemical
- PSD - Air Quality Prevention of Significant Deterioration Program
- RMP - Refiner-Mechanical Pulp
- TCDD - 2,3,7,8 Tetrachlorodibenzo-p-Dioxin
- TMP - Thermal Mechanical Pulp
- TOCl - Total Organically Bound Chlorine
- TOX - Total Organic Halides
- TSS - Total Suspended Solids

Prepared by the Department of Environmental Quality, July 14, 1989.

4

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: July 14, 1989

TO: Environmental Quality Commission

FROM: Jerry Turnbaugh, Water Quality Div.

SUBJECT: Proposed Port Westward Pulp Mill

SUMMARY OF THE PORT WESTWARD PULP COMPANY PROPOSAL

Mill Description

The proposed pulp mill would occupy approximately 250 acres on property leased from the Portland General Electric Company at the Beaver Terminal near Clatskanie, Oregon.

The mill would produce some 1200-1300 air-dried tons of bleached kraft market pulp per day at full capacity using softwood chips from Northwest sawmills. Chips would be delivered by barge, rail and truck and finished baled pulp would be shipped out by ocean-going ship, barge, rail and truck.

Modern in-plant production processes, such as extended cooking, oxygen delignification and chlorine dioxide substitution in the bleaching process would be provided to reduce the amount of color discharged and to prevent formation of dioxin, chloroform and other toxics.

Wastewater would be treated in a conventional aerated stabilization basin to reduce effluent oxygen demand before being discharged to the Columbia River.

Significant Environmental Impacts

Color Discharge

The proposed mill effluent would be brown in color and may be visible in the river in the vicinity of the mixing zone. The Department proposes to require that Port Westward limit the visible color plume to a mixing zone radius of 1000 feet from the mill outfall diffuser. This requirement would not cause the mill to remove or otherwise treat color in its effluent. It may, however, cause the mill to withhold discharge during the critical

Memo to: Environmental Quality Commission
July 11, 1989
Page 2

hours of the day when tide and current conditions are least favorable to effluent dispersal.

Other Oregon mills on the Columbia River do not have a similar color limitation.

Dioxin Discharge

Dioxin in pulp-mill effluent is generally thought to be produced in the chlorination steps of the bleach plant. Because this mill proposes to use a chlorine bleaching process, it may be expected to discharge some amount of dioxin (2,3,7,8-tetrachloro-dibenzo-p-dioxin), chloroform and other chlorinated organic toxics in its effluent.

Dioxin is the common name of a family of chlorinated organic compounds. Nobody produces dioxins on purpose. It is an unwanted and often unavoidable by-product that comes from not only pulp mills but from other manufacturing operations and certain types of combustion processes.

This mill proposes to use extended cooking and oxygen delignification to remove as much lignin from the pulp as possible before the pulp reaches the bleach plant. The less lignin remaining in the pulp, the less bleaching is required to bring the pulp to the required whiteness.

The proposed bleach plant uses a four-stage process: chlorine/chlorine-dioxide delignification, alkaline lignin extraction with oxygen, and two chlorine-dioxide bleaching stages.

The first stage uses a mixture of chlorine and chlorine-dioxide to make the lignin remaining from the oxygen delignification step soluble in alkaline solution so it can be further removed in the following extraction stage.

The alkaline extraction stage removes solubilized lignin by washing it out of the pulp. Oxygen is added to further bleach and assist in the delignification process.

The last two stages use chlorine-dioxide to chemically bleach the remaining colored impurities in the pulp to the desired whiteness.

Thoroughly washing the pulp to remove process chemicals and the last remaining impurities completes the pulping process.

Pulp-mill experience from Scandinavia indicates chlorinated organic toxics are more likely to be produced by elemental chlorine than by other chemical forms of chlorine. Substitution

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July 11, 1989
Page 3

of chlorine dioxide for elemental chlorine is widely used as a means of reducing formation of chlorinated organics. The degree of substitution can range from 0 (no chlorine-dioxide) to 100 percent (all chlorine dioxide). It is not clear how much dioxin is produced at any given level of substitution but it is generally assumed that the higher the degree of substitution, the better.

High levels of substitution also increase the demands on processing equipment. Increased corrosion must be controlled with more expensive metals and other, less conventional, corrosion-resistant materials.

If Port Westward uses extended cooking, oxygen delignification, and a high percentage of chlorine-dioxide, the mill should produce the minimum amount of dioxin possible with today's available technology.

Wetlands Mitigation

The Department would propose a condition in the discharge permit to prohibit construction of the mill until a Section 404 (of the federal Clean Water Act) permit has been issued by the US Army Corps of Engineers. Before a Section 404 permit can be issued, the Department must certify, pursuant to Section 401 of the Clean Water Act, that the dredging and filling of the wetlands will not violate water quality standards. The Department is currently reviewing the Section 401 application and has requested further information upon which to evaluate the proposal.

The Corps of Engineers received a Section 404 permit application from Port Westward Pulp Co. and solicited public comment from May 24, 1989 to June 23, 1989.

Construction of the mill would result in the loss of 38 acres of existing wetlands. Port Westward proposes to mitigate the loss of these wetlands by creating 38-acres of wetlands, 5.6 acres of buffer around the created wetlands and 6.4 acres of spoil mounds from a 50 acre parcel of land.

Remaining existing wetlands would be protected by conditions in the wastewater discharge permit from any adverse effect of the mill, including stormwater runoff from chip and hog fuel storage piles.

Air-Toxics Discharge

Port Westward has also applied to the Department for an air-contaminant discharge permit. The permit does not require approval by the EQC.

Memo to: Environmental Quality Commission
July 11, 1989
Page 4

The Air Quality Division conducted a preliminary technical review and analyzed computer modelling of emissions of all pollutants at the facility. Pollutants regulated by the Department include particulate, total reduced sulfur, sulfur dioxide, carbon monoxide and nitrogen oxides. They were modeled to determine their impact on air-quality standards, non-attainment areas and visibility. Chlorine, chlorine dioxide and chloroform were modeled to determine impact on nearby industrial and non-industrial areas. The health risks associated with these chlorine compounds are still being evaluated.

Air-quality issues will be addressed in a hearing to be held July 25, 1989, at 7 P.M., in the Clatskanie American Legion Hall.

FACT SHEET
ON
POPE AND TALBOT
HALSEY MILL
EXPANSION AND MODIFICATION

BACKGROUND

Construction of the Halsey pulp and paper mill was originally proposed by American Can Company in 1967. After commissioning in 1969, American Can Company operated the 375 ton per day bleached kraft pulp and paper mill until the change of ownership in the early 1980's. Currently, the pulping and paper manufacturing operations are separately owned and operated by Pope and Talbot, Inc. and James River Corporation, respectively. Since 1969, the pulp and paper operations have undergone several phases of process improvements and the mill is now capable of producing 550 tons per day of bleached kraft pulp. Although production levels have increased, the mill has not only reduced the amount of process waste water discharged into the Willamette River from 18 to 14.5 million gallons per day (MGD), but has also improved the performance of the biological treatment system to maintain the original permit limitation of 2500 pounds per day of Biochemical Oxygen Demand (BOD) in low stream flow months during the summer.

A color limitation was incorporated into the first Waste Discharge Permit for the mill in 1969 and has remained in each subsequent permit until 1987. The initial color limitation of 1500 units was based on the company's projection before mill startup of what the color concentration would be in the treated effluent. Until the early 1980's, the color limits were consistently achieved. Various changes in the company's bleaching sequence (from CEHH to CE₀HP) resulted in less chemical usage in the process, but higher effluent color. To comply with the color limitations, approximately \$2500 to \$3500 per day of bleaching chemical (sodium hypochlorite) was added to the waste water to reduce effluent color. In July 1987, Pope and Talbot, Inc. requested to delete the color limitation in their NPDES permit because of costs and other unknown side effects caused by the chemicals used for color reduction. The request was presented to the Environmental Quality Commission (EQC) for a decision. After reviewing the supporting documents and opposing arguments, EQC approved the request but required the Company to further evaluate color removal technology and environmental impacts on the receiving stream caused by the highly colored effluent. The company is currently undertaking the second phase of the color impact study and the conclusions from the study will be available at the end of this year.

Four or five mills in the United States are currently required to comply with effluent color limits. The Halsey operation was the only pulp and paper mill in Oregon that was required to comply with an effluent color limit. During summer streamflow

conditions, the treated effluent discharge can be highly visible at the outfall and, after mixing with the entire river, dissipates to a brownish tea color downstream. Although there are two other bleached kraft mills in Oregon, both of these mills discharge treated effluent to the Columbia River. With the extremely large dilution that occurs in the Columbia River, the colored discharge plume from one of these mills is occasionally visible, but it rapidly disperses and does not have a lasting effect on the river. The five other pulp mills in the Willamette River Basin discharge effluents ranging from 75 to 750 color units.

PROPOSED EXPANSION AND EXISTING MILL MODIFICATION

In July 1988, Pope and Talbot, Inc. initiated discussions with the Department regarding a proposed expansion/upgrade plan for the Halsey mill. The expanded and upgraded operation will have the capability to produce 550 air-dried tons (ADT) per day of board, coarse, tissue pulp; and 1100 ADT per day of market pulp by 1992. After the initial discussions and review of some of the existing issues surrounding the bleached pulp operations, the company applied in January 1989 for a modification of their existing NPDES permit to facilitate the proposed expansion project.

The proposed mill will incorporate the latest state-of-the-art technologies in the pulping and bleaching processes, namely extended cooking, oxygen delignification, and 100% chlorine dioxide substitution. In addition to process expansion, the company proposed to increase their biological treatment system by 75% to handle the extra wasteloads. The existing mill generates an average effluent flow of around 14.5 million gallons per day (MGD) while the proposed new operation will produce an effluent of 26.0 MGD. A two (2) billion gallon effluent polishing pond is also proposed. The intent of the polishing pond is to provide the company with the flexibility to regulate effluent discharge in proportion to river flow on a year-round basis. The Department is waiting for more information from the company, such as the engineering reports on sludge dewatering/disposal and City of Corvallis Water Treatment Plant Performance Evaluations, before proceeding with the pending NPDES permit modification application.

ENVIRONMENTAL ISSUES

COLOR

In the July 1987 EQC meeting, the commission authorized the color limits to be removed from the NPDES permit for the Halsey mill, but required the company to explore options for color removal and control. Since then, treated effluent with 3500 color units (CU) has been discharging into the Willamette River.

Since color is a byproduct of the pulp and paper manufacturing process, it is logical that there will be an associated increase of color loads caused by the proposed mill expansion. However, the color load will not increase in proportion to the production. Reduced color generation, i.e. the amount of color bodies produced per ton of product, is a side benefit of the state-of-the-art processing technologies. In the new technologies, a high percentage of the color bodies (lignin and lignin derivatives) are captured in the pulping and washing stages and eventually disposed of in the boilers for steam and power generation. The projected color reduction is around 60% to 75%. However, the three-fold increase in production will increase the color load to the receiving river from the current level by 60%. As required by EQC and the existing NPDES permit, the company reviewed all existing color control technologies and concluded that the best available method is the Dissolved Air Flootation (DAF) process patented by Stone Container Corporation. With the aides of chemicals, such as alum or polymers, which can enhance agglomeration, the DAF process can remove approximately 90% of the color bodies from the pulp and paper waste waters. The only drawback of this color control methodology is the creation of large quantities of solid waste or sludge, which will require further disposal considerations. Currently, an environmentally acceptable sludge disposal alternative has not been technically identified.

The company is now considering the possibility of holding some of the treated effluent in polishing pond during low flow months and discharging when color would not be visible. In other words, the company plans to control the discharge during the summer months so that the original 1500 color unit limit can be maintained, and during the winter months discharge will be increased in accordance with the river flow. Since river flow is normally two to three folds higher in the winter months, the additional discharge of treated effluent will have minimal impact to the color of the river. In conjunction with this control strategy, the company will continue investigating color removal and sludge disposal alternatives and will commit to installing additional facilities when an economically and technically feasible system becomes available.

DIOXIN AND OTHER CHLORINATED COMPOUNDS

Dioxin (2,3,7,8-TCDD) has been found in treated effluent (30 parts per quadrillion - ppq) and in fish (0.8 and 4.6 parts per trillion) caught downstream from the discharge. Based on those findings, the Department included both the mill and the downstream segment of the Willamette River on the 304 (1) list. In order to mitigate the toxicity issue, the company proposes to use state-of-the-art pulping and bleaching processes in the new and upgraded operations. These new technologies will minimize the creation of dioxin and other chlorinated compounds, and Pope and Talbot, Inc. anticipates that dioxin will not be detected in the effluent of

the new bleach plants. Currently, the detectability of dioxin is 10 ppq. Based on a conservative scenario, i.e. bleach plant effluent is 50% of the total mill process waste water, there will be more than a six-fold reduction in the generation of dioxin from the new bleaching process.



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: B
Division: Management Services
Section: Administration

SUBJECT:

April and May 1989 Activity Report

PURPOSE:

1. Provide general information to the Environmental Quality Commission (EQC) on the activities of the Department of Environmental Quality (Department).
2. Obtain Commission approval to remove Activity Report item from EQC agenda.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)
Accept Activity Report as informational item; approve removal of item from EQC agenda.
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment ___
 - Rulemaking Statements Attachment ___
 - Fiscal and Economic Impact Statement Attachment ___
 - Public Notice Attachment ___
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___

Meeting Date: July 21, 1989
Agenda Item: B
Page 2

- Approve Department Recommendation
- | | | |
|--|------------|--------------------------|
| <input type="checkbox"/> Variance Request | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Exception to Rule | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Informational Report | Attachment | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Other: (specify) | Attachment | <u>A</u> |
- Accept Activity Report as informational report and approve the removal of the Activity Report item from the EQC agenda.

DESCRIPTION OF REQUESTED ACTION:

(See Purpose Statement above)

AUTHORITY/NEED FOR ACTION:

- | | | |
|--|------------|--------------------------|
| <input type="checkbox"/> Required by Statute: _____ | Attachment | <input type="checkbox"/> |
| Enactment Date: _____ | | |
| <input type="checkbox"/> Statutory Authority: _____ | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Pursuant to Rule: _____ | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Pursuant to Federal Law/Rule: _____ | Attachment | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Other: Director's request. | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Time Constraints: (explain) | | |

DEVELOPMENTAL BACKGROUND:

- | | | |
|---|------------|--------------------------|
| <input type="checkbox"/> Advisory Committee Report/Recommendation | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Hearing Officer's Report/Recommendations | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Response to Testimony/Comments | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Prior EQC Agenda Items: (list) | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Other Related Reports/Rules/Statutes: | Attachment | <input type="checkbox"/> |
| <input type="checkbox"/> Supplemental Background Information | Attachment | <input type="checkbox"/> |

Meeting Date: July 21, 1989
Agenda Item: B
Page 3

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

None

PROGRAM CONSIDERATIONS:

None

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

None

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends that the attached informational report be accepted and that the EQC approve Director's recommendation to eliminate the Activity Report from the EQC agenda. The report would be provided to EQC members for informational purposes in the EQC meeting packets.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

Presentation of the Activity Report to the EQC is not required. At the April 14, 1989 EQC meeting the EQC took action to eliminate EQC approval of the report.

ISSUES FOR COMMISSION TO RESOLVE:

None

INTENDED FOLLOWUP ACTIONS:

None

Meeting Date: July 21, 1989
Agenda Item: B
Page 4

Approved:

Section:

Roberta Young

Division:

Lydia Taylor

Director:

Report Prepared By: Roberta Young

Phone: 229-6408

Date Prepared: June 19, 1989

RY:y
ap14act
6/19/89

DEPARTMENT OF ENVIRONMENTAL QUALITY

Monthly Activity Report

April & May 1989

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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
 Water Quality Division and
 Solid Waste Division

(Reporting Unit)

April 1989

(Month and Year)

SUMMARY OF PLAN ACTIONS

	Plans Received		Plans Approved		Plans Disapproved		Plans Pending
	<u>Month</u>	<u>FY</u>	<u>Month</u>	<u>FY</u>	<u>Month</u>	<u>FY</u>	
<u>Air</u>							
Direct Sources	6	55	3	68	0	0	15
Small Gasoline Storage Tanks Vapor Controls	-	-	-	-	-	-	-
Total	6	55	3	68	0	0	15
<u>Water</u>							
Municipal	11	107	16	121	0	4	24
Industrial	3	67	11	60	0	0	10
Total	14	174	27	181	0	4	34
<u>Solid Waste</u>							
Gen. Refuse	8	27	1	19	0	6	32
Demolition	1	2	0	1	-	-	2
Industrial	0	6	0	5	0	3	10
Sludge	-	-	-	-	-	-	2
Total	9	35	1	25	0	9	46
<u>GRAND TOTAL</u>	29	264	31	274	0	13	95

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PLAN ACTIONS COMPLETED

Permit Number	Source Name	County	Date Scheduled	Action Description	Date Achieved
05	1849 BOISE CASCADE CORP	COLUMBIA	03/08/89	COMPLETED-APRVD	04/17/89
07	0001 CLEAR PINE MOULDINGS INC	CROOK	04/05/89	COMPLETED-APRVD	04/11/89
18	0013 WEYERHAEUSER COMPANY	KLAMATH	04/03/89	COMPLETED-APRVD	04/04/89

TOTAL NUMBER QUICK LOOK REPORT LINES 3

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

April 1989
(Month and Year)

SUMMARY OF AIR PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	Month	FY	Month	FY			
<u>Direct Sources</u>							
New	2	25	2	23	14		
Existing	2	9	0	8	8		
Renewals	14	123	4	101	86		
Modifications	3	29	2	22	16		
Trfs./Name Chng.	<u>0</u>	<u>23</u>	<u>2</u>	<u>25</u>	<u>0</u>		
Total	21	209	10	179	124	1398	1422
<u>Indirect Sources</u>							
New	3	16	1	12	6		
Existing	0	0	0	0	0		
Renewals	0	0	0	0	0		
Modifications	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>		
Total	<u>4</u>	<u>17</u>	<u>1</u>	<u>12</u>	<u>7</u>	<u>298</u>	<u>304</u>
<u>GRAND TOTALS</u>	25	226	11	191	131	1696	1726

Number of
Pending Permits

Comments

14	To be reviewed by Northwest Region
11	To be reviewed by Willamette Valley Region
17	To be reviewed by Southwest Region
12	To be reviewed by Central Region
10	To be reviewed by Eastern Region
20	To be reviewed by Program Operations Section
26	Awaiting Public Notice
<u>14</u>	Awaiting end of 30-day Public Notice Period
124	

MAR.5
AA5323A (5/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PERMITS ISSUED

Permit Number	Source Name	County Name	Appl. Rcvd.	Status	Date Achvd.	Type Appl.
03	2501 CONCRETE SERVICES, INC.	CLACKAMAS	02/23/89	PERMIT ISSUED	04/20/89	TRS
03	2691 COOSAND CORP	CLACKAMAS	01/25/89	PERMIT ISSUED	04/28/89	RNW
07	0024 PIONEER CUT STOCK, INC.	CROOK	02/01/89	PERMIT ISSUED	04/05/89	MOD
08	0039 BROOKINGS ENERGY FACILITY	CURRY	12/12/88	PERMIT ISSUED	04/24/89	RNW
17	0071 COPELAND PAVING, INC.	JOSEPHINE	01/23/89	PERMIT ISSUED	05/02/89	NEW
25	0013 READY-MIX SAND AND GRAVEL	MORROW	01/20/89	PERMIT ISSUED	04/20/89	RNW
26	2579 AMERICAN LINEN	MULTNOMAH	03/20/89	PERMIT ISSUED	04/20/89	TRS
26	2909 HALL-BUCK MARINE, INC.	MULTNOMAH	01/05/89	PERMIT ISSUED	04/24/89	MOD
26	3246 WILHELM FUNERAL HOME	MULTNOMAH	12/27/88	PERMIT ISSUED	04/05/89	NEW
37	0129 BEAVER STATE SAND & GRAVL	PORT.SOURCE	03/23/89	PERMIT ISSUED	04/20/89	RNW

TOTAL NUMBER QUICK LOOK REPORT LINES

10

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

April 1989
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

Indirect Sources

Washington	Durham Park Apartments 381 Spaces File No. 34-8904	4/20/89	Final Permit Issued
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division

(Reporting Unit)

April 1989

(Month and Year)

PERMIT TRANSFERS & NAME CHANGES

<u>Permit Number</u>	<u>Company Name</u>	<u>Type of Change</u>	<u>Status of Permit</u>
03-2501	Concrete Services, Inc.	Transfer	Issued
10-0121	Hoover Treated Wood Products	Name Change ¹	Being drafted
15-0064	Rogue Aggregates, Inc.	Transfer ¹	Being drafted
22-5196	White Plywood Co.	Transfer ¹	Awaiting public notice
26-2579	American Linen	Transfer	Issued

¹In conjunction with permit renewal.

²In conjunction with permit modification.

MAR.5TC

AD3481 (5/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division	April 1989
(Reporting Unit)	(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

INDUSTRIAL WASTE SOURCES - 11

Tillamook	Tillamook County Creamery Association Wastewater Treatment Facility Modification	4-7-89	Approved
Benton	Hewlett Packard Acid Neutralization and Fluoride Treatment Facilities	4-24-89	Approved
Multnomah	Portland General Electric Company - Multnomah Substation Oil Spill Containment Facility	4-27-89	Approved
Multnomah	Portland General Electric Company - Sylvan Substation Oil Spill Containment Facility	3-30-89	Approved
Yamhill	Portland General Electric Company - Amity Substation Oil Spill Containment Facility	3-20-89	Approved

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

April 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action
*	* /Site and Type of Same	* Action	*
*	*	*	*

INDUSTRIAL WASTE SOURCES

Multnomah	Pacific Power & Light Co. Oil Spill Containment Facility	4-6-89	Approved
Washington	Montinore Vineyards Wastewater Treatment Facility	4-6-89	Approved
Polk	Pacific Power & Light Co. Dallas Service Center Oil Spill Containment Facility	4-24-89	Approved
Josephine	Pacific Power & Light Co. Grants Pass Service Center Oil Spill Containment Facility	4-27-89	Approved
Lincoln	Pacific Power & Light Co. Lincoln City Service Center Oil Spill Containment Facility	4-10-89	Approved
Lincoln	Ocean lake Paving Co. Recirculation Basin & Oil/Grease Collection/ Separation System	4-7-89	Approved

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

April 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action
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MUNICIPAL WASTE SOURCES - 16

Page 1 of 2

Deschutes	Starwood Sanitary District Block 6, Lots 1-38 and Block 8, Lots 1-4 Bottomless Sand Filter 18,900 gpd	4-19-89	Provisional Approval
Clackamas	Oak Lodge Sanitary Dist. Dory Bluff (Dorinne Pederson)	4-24-89	Provisional Approval
Lane	Camp Yale, Jess Staton On-Site System (Phase I) 2,000 gpd	4-18-89	Comments to County
Curry	Brookings o Kelly Subdivision o Wiggins Subdivision	4-17-89	Provisional Approval
Marion	Salem STP Digester Piping Improvements	5-8-89	Provisional Approval
Morrow	Boardman Locust Road Ext. (Ambulance Facility)	4-24-89	Provisional Approval
Klamath	Klamath Falls o Tract 1206, First Add., North Hills Subdivision o Tract 1207, Second Add., North Hills Subdivision	3-23-89	Provisional Approval
Wallowa	Wallowa Lake C.S.D. STEP Systems	4-12-89	Provisional Approval

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DEPARTMENT OF ENVIRONMENTAL QUALITY
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Water Quality Division
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April 1989
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PLAN ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action	*
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MUNICIPAL WASTE SOURCES

Page 2 of 2

Douglas	Elkton Sewerage System 28,580 gpd	5-8-89	Provisional Approval	
Clackamas	Lake Oswego Mountain View Estates Pump Station	4-10-89	Comments to Engr.	
Lincoln	Newport Iron Mountain Beach	4-13-89	Comments to City	
Lane	Deadwood Campground Dale/Marilyn Huth On-Site System	4-17-89	Comments & Referral to WV Region	
Washington	USA/Durham AWWTP Phase I Expansion	5-5-89	Provisional Approval	
Coos	North Bend STP Expansion Addendum No. 1	4-21-89	Provisional Approval	

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Water Quality Division
(Reporting Unit)

April 1989
(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES - 24

Page 1 of 3

Umatilla	Larry Greenwalt Shady Rest Mobile Home Court Bottomless Sand Filter	4-21-88	Review Completion Projected 5-30-89	JLV
Clatsop	Glenwood Mobile Park Modification to dual media filter from anoxic tower	10-4-88	Review Completion Projected 5-30-89	JLV
Curry	Brookings Contract #2 (70%)	2-2-88	Review Completion Projected 7-31-89	KMV
Clackamas	Gladstone Marsh Property	2-1-90	Review Completion Projected 5-30-89	JLV
Umatilla	Ferndale School Dist. No. 1 On-Site System Addition	2-16-89	Review Completion Projected 5-30-89	JLV
Lane	Florence River's Edge	3-15-89	Review Completion Projected 5-30-89	JLV
Lincoln	Yachats Center Way	3-15-89	Review Completion Projected 5-30-89	JLV
Jefferson	United Methodist Church Sutt Lake Camp Sewerage System Reconstruction	3-23-89	Review Completion Projected 5-30-89	JLV

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DEPARTMENT OF ENVIRONMENTAL QUALITY
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Water Quality Division
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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status
*	* /Site and Type of Same	* Received	*
*	*	*	*

INDUSTRIAL WASTE SOURCES - 10

Marion	Siltec Corporation Initial Liquid Effluent Treatment Facility	11-22-88	Review Completion Projected 5-31-89
Coos	Weyerhaeuser Paper Co. Aerators, Earthen Dikes and Floating Dikes	12-23-88	Review Completion Project 5-31-89
Lincoln	Georgia Pacific - Toledo Concrete Collection Sump with Submersible Pump and Holding Tank	3-23-89	Review Completion Projected 5-31-89
Jackson	Pacific Power & Light Co. Medford Service Center Oil Spill Containment Facility	3-24-89	Review Completion Projected 5-31-89
Umatilla	Pacific Power & Light Co. Pendleton Service Center Oil Spill Containment Facility	3-24-89	Review Completion Projected 5-31-89

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
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April 1989
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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status
*	* /Site and Type of Same	* Received	*
*	*	*	*

INDUSTRIAL WASTE SOURCES

Douglas	Pacific Power & Light Co. Roseburg Service Center Oil Spill Containment Facility	3-24-89	Review Completion Projected 5-31-89
Coos	Pacific Power & Light Co. Lockhart Substation Oil Spill Containment Facility	3-30-89	Review Completion Projected 5-31-89
Jackson	Medite Corporation Water Cooling Tower with Heat Exchanger	3-30-89	Review Completion Projected 5-31-89
Multnomah	Pacific Metal Stripping Wastewater Pretreatment System	4-24-89	Review Completion Projected 5-31-89
Clackamas	American Sand & Gravel Inc. Wastewater Treatment Facility	4-28-89	Review Completion Projected 5-31-89

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
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April 1989
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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received *		*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 2 of 3

Clatsop	Seaside Circle Creek Campground	3-28-89	Review Completion Projected 5-30-89	JLV
Union	Union Headworks Improvement	3-30-89	Review Completion Projected 5-30-89	JLV
Coos	Bandon Beach View Estates	4-12-89	Review Completion Projected 5-30-89	JLV
Yamhill	Sheridan Wastewater Lagoon Expansion	4-18-89	Review Completion Projected 5-30-89	JLV
Lane	Lowell STP Upgrade	4-19-89	Review Completion Projected 5-30-89	KMV
Crook	Prineville Algonquin Subdivision	4-24-89	Review Completion Projected 5-30-89	JLV
Lincoln	Taylor's Landing RV Park Recirculating Gravel Filter	4-26-89	Review Completion Projected 5-30-89	JLV

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

April 1989
(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project * /Site and Type of Same	* Date * Received	* Status	* Reviewer
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MUNICIPAL WASTE SOURCES

Page 3 of 3

- - - - - PROJECTS BELOW ARE "ON-HOLD" - - - - -

Columbia	Scappoose Sewage Treatment Plant Expansion	3-11-87	On Hold, Financing Incomplete	DSM
Deschutes	Romaine Village Recirculating Gravel Filter (Revised)	4-27-87	On Hold For Surety Bond	Not Assigned
Marion	Breitenbush Hot Springs On-Site System	5-27-86	On Hold, Uncertain Financing	JLV
Curry	Whaleshead Beach Campground Gravel Recirculation Filter (Revised)	5-20-87	Holding for Field Inspection	JLV
Multnomah	Troutdale Frontage Road Sewage Pump Station Replacement	4-25-88	Bids Rejected, Being Redesigned	DSM
Deschutes	Bend Bend Millwork Sewer and Pump Station	1-30-89	Plan Rejected Awaiting Design Revisions	DSM
Yamhill	Amity Outfall	3-13-89	Awaiting Planning Evaluation	DSM
Polk	Falls City Phase II Improvements	2-22-89	Awaiting NPDES Permit	JLV
Clackamas	Government Camp San. Dist. Mt. Hood Motel	11-21-88	Awaiting Easement for District	JLV

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Summary of Actions Taken on Water Permit Applications in APR 89
05/04/89

Source Category & Permit Subtype	Number of Applications Filed						Number of Permits Issued						Applications Pending Permits Issuance (1)			Current Number of Active Permits				
	Month			Fiscal Year			Month			Fiscal Year			NPDES	WPCF	Gen	NPDES	WPCF	Gen		
	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen								
Domestic																				
NEW		2	1	1	19	3		1		2	12		4	21	3					
RW				1	1					2	1		2	1						
RWO		2		4	22		1			10	13		92	43						
MW				3									4							
MWO				5	8			4		5	9		3	2						
Total		4	1	51	50	3	1	5		19	35		105	67	3	225	203	29		
Industrial																				
NEW	2	2	11	7	10	42		1	9	3	10	54	7	11	11					
RW				2						2			2							
RWO	3			20	15		1			14	10		27	21						
MW										1			3							
MWO				6	6	6	1			6	7		1	1						
Total	5	2	11	35	31	48	2	1	9	26	27	54	40	33	11	157	131	460		
Agricultural																				
NEW					3				13			108		2						
RW																				
RWO					3						1		1	3						
MW																				
MWO					1						2									
Total					7				13		3	108	1	5		2	8	710		
Grand Total	5	6	12	86	88	51	3	6	22	45	65	162	146	105	14	384	342	1199		

1) Does not include applications withdrawn by the applicant, applications where it was determined a permit was not needed, and applications where the permit was denied by DEQ.

It does include applications pending from previous months and those filed after 30-APR-89 .

- NEW - New application
- RW - Renewal with effluent limit changes
- RWO - Renewal without effluent limit changes
- MW - Modification with increase in effluent limits
- MWO - Modification without increase in effluent limits

PERMIT CAT NUMBER	SUB- TYPE OR	NUMBER	FACILITY	FACILITY	NAME	CITY	COUNTY/REGION	DATE ISSUED	DATE EXPIRES
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General: Placer Mining

IND	600	GEN06	NEW	104509/A	DALEY, DOMINIC A.	GOLD HILL	JACKSON/SWR	26-APR-89	31-JUL-91
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General: Suction Dredges

IND	700	GEN07	NEW	104483/A	UKOLOV, VLADIMIR		MOBILE SRC/ALL	10-APR-89	31-JUL-91
IND	700	GEN07	NEW	104484/A	UKOLOV, JOHN & AUSMUSS, RANDY		MOBILE SRC/ALL	10-APR-89	31-JUL-91

General: Confined Animal Feeding

AGR	800	GEN08	NEW	104470/A	WETZEL, GLEN T.	SHERWOOD	WASHINGTON/NWR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104471/A	BECKIVER, LAWRENCE	GERVAIS	MARION/WVR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104472/A	WETTSTEIN FARMS INC.	ONTARIO	MALHEUR/ER	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104473/A	VAN BEEK, JOHN	MONROE	BENTON/WVR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104474/A	EAST VALLEY FARMS	MOLALLA	CLACKAMAS/NWR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104475/A	HIGHLAND VALLEY FARMS	SCIO	LINN/WVR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104477/A	POLACK, ROBERT	MOLALLA	CLACKAMAS/NWR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104478/A	ETZEL, DON	TURNER	MARION/WVR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104479/A	RAINBOW LANE FARMS, INC.	VALE	MALHEUR/ER	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104480/A	BURNS, JOHN	ROGUE RIVER	JACKSON/SWR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104481/A	CARPENTER, MONTE	SALEM	MARION/WVR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104482/A	YODER, CLIFFORD	CANBY	CLACKAMAS/NWR	07-APR-89	31-JUL-92
AGR	800	GEN08	NEW	104508/A	SCHIMMEL, DONALD D.	RAINIER	COLUMBIA/NWR	25-APR-89	31-JUL-92

ALL PERMITS ISSUED BETWEEN 01-APR-89 AND 30-APR-89
 ORDERED BY PERMIT TYPE, ISSUE DATE, PERMIT NUMBER

General: Seasonal food procs. and wineries

IND	1400	GEN14	NEW	104487/A	SCHWARZENBERG VINEYARDS, INC.	DALLAS	POLK/WVR	12-APR-89	31-DEC-93
IND	1400	GEN14	NEW	104491/A	UMPQUA VALLEY WINERY, INC.	ROSEBURG	DOUGLAS/SWR	17-APR-89	31-DEC-93
IND	1400	GEN14	NEW	104494/A	LONGSHORE, GLEN A. & CHERYL F.	MONMOUTH	POLK/WVR	19-APR-89	31-DEC-93
IND	1400	GEN14	NEW	104498/A	SILVER FALLS WINERY, INC.	SUBLIMITY	MARION/WVR	19-APR-89	31-DEC-93
IND	1400	GEN14	NEW	104469/A	MONTINORE VINEYARDS LIMITED	FOREST GROVE	WASHINGTON/NWR	20-APR-89	31-DEC-93
IND	1400	GEN14	NEW	104490/A	KRAMER, TRUDY AND KEITH	GASTON	WASHINGTON/NWR	28-APR-89	31-DEC-93

NPDES

DOM	100571	NPDES	RWO	OR002635-2	41740/B	OTTER CREST WATER SERVICES CO.	OTTER CREST	LINCOLN/WVR	07-APR-89	28-FEB-94
IND	3865	NPDES	MWO	OR003076-7	31025/A	OSTRANDER CONSTRUCTION COMPANY DBA	PAISLEY	LAKE/CR	28-APR-89	30-JUN-89
IND	100572	NPDES	RWO	OR003074-1	41005/A	ROYAL OAK ENTERPRISES, INC.	WHITE CITY	JACKSON/SWR	28-APR-89	31-MAR-94

WPCF

DOM	100569	WPCF	NEW	104292/A	COLLINS, RICHARD	WESTLAKE	DOUGLAS/SWR	07-APR-89	31-MAR-94
IND	100570	WPCF	NEW	103989/A	OREGON WASTE SYSTEMS, INC.	ARLINGTON	GILLIAM/ER	07-APR-89	28-FEB-94
DOM	3867	WPCF	MWO	78590/B	SANDPIPER HOMEOWNERS ASSOCIATION, INC.	HARBOR	CURRY/SWR	26-APR-89	31-JUL-89
DOM	100154	WPCF	MWO	75380/B	JUNGE, HELMUT & CALLAHAM, C. DAVID	SISTERS	DESCHUTES/CR	26-APR-89	31-JAN-91
DOM	3687	WPCF	MWO	60570/B	WHITESSELL, JOHN J.	UKIAH	UMATILLA/ER	28-APR-89	31-MAY-88
DOM	100409	WPCF	MWO	102899/A	DELGADO, GRACE A.	DRAIN	DOUGLAS/SWR	28-APR-89	30-NOV-92

PERMIT TRANSFERS

Part of
Water Quality Division Monthly Activity Report
(Period April 1, 1989 through April 30, 1989)

<u>Permit No.</u>	<u>Previous Facility Name</u>	<u>Facility</u>	<u>New Facility Name</u>	<u>City</u>	<u>County</u>	<u>Date Transferred</u>
3867	Roberts, Herbert C.	78590	Sandpiper Homeowners Association, Inc.	Harbor	Curry/SWR	4/26/89 (Ownership)
100154	Sisters Land Associates, Oreg. Ltd.	75380	Helmut Junge and C. David Callaham, dba Threewind Associates	Sisters	Desch./CR	4/26/89 (Ownership)
3687	New Life Adventures, Inc.	60570	John J. Whitesell	Ukiah	Umat./ER	4/28/89 (Ownership)
3865-J	Fremont Lumber Company	31025	Ostrander Construction Company, dba Fremont Sawmill Division of Ostrander Construction Co.	Paisley	Lake/CR	4/28/89 (Name Change)

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

April 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*
Josephine	Merlin Landfill	4/26/89	Plan reviewed	

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division

April 1989

(Reporting Unit)

(Month and Year)

PLAN ACTIONS PENDING - 46

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Municipal Waste Sources - 32

Baker	Haines	12/13/85	12/13/85	(R) Plan received	HQ
Deschutes	Knott Pit Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Fryrear Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Negus Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Marion	Ogden Martin Brooks ERF	3/24/87	3/24/87	(N) As-built plans rec'd.	HQ
Douglas	Reedsport Lndfl.	5/7/87	5/7/87	(R) Plan received	HQ
Benton	Coffin Butte	6/1/87	6/1/87	(R) Plan received	HQ
Umatilla	City of Milton-Freewater	11/19/87	11/19/87	(N) Plan received (groundwater study)	HQ
Marion	Ogden-Martin (metal rec.)	11/20/87	11/20/87	(N) Plan received	HQ
Marion	Browns Island Landfill	11/20/87	11/20/87	(C) Plan received (groundwater study)	HQ
Harney	Burns-Hines	12/16/87	12/16/87	(R) Plan received	HQ
Marion	Woodburn TS	1/5/88	1/5/88	(N) Revised plan rec'd.	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Plans received	HQ
Umatilla	Pendleton Landfill	6/6/88	6/6/88	(R) Plans received	HQ
Coos	Les' Sanitary Service TS	6/30/88	6/30/88	(N) Plans received.	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
Malheur	Brogan TS	7/1/88	7/1/88	(N) Plans received.	HQ
Marion	Marion Recycling Center, Inc.	7/20/88	7/20/88	(N) Plans received	HQ
Douglas	Lemolo Transfer	9/1/88	9/1/88	(M) Plans received	HQ
Lane	Franklin Landfill	9/29/88	9/29/88	(R) Groundwater report received	HQ
Umatilla	Athena Landfill	11/15/88	11/15/88	(M) Plans received	
Jackson	Ashland Landfill	12/1/88	12/1/88	(N) Plans received	HQ
Lake	Lake County Lndfl.	12/5/88	12/5/88	(C) Plans received	HQ
Deschutes	Alfalfa Landfill	12/19/88	12/19/88	(C) Plans received	HQ
Morrow	Heppler Landfill	12/20/88	12/20/88	(N) Plans received	HQ
Mutlnomah	St. Johns Landfill Groundwater study	12/22/88	12/22/88	(C) GW study received	HQ
Marion	Woodburn Ashfill	1/3/89	1/3/89	() As-built plans rec'd.	HQ
Gilliam	Ore. Wste. Sys. (O.W.S.) Landfill	2/14/89	4/27/89	(N) Add'l plan information received	HQ
Lincoln	Agate Beach Lndfl.	2/27/89	2/27/89	() Leachate plan rec'd.	HQ
Gilliam	S. Gilliam Co. Landfill	3/1/89	3/1/89	(C) Plan received	HQ
Wallowa	Ant Flat Landfill	3/13/89	3/13/89	(N) Plan received	HQ
Klamath	Klamath Falls	3/27/89	3/27/89	(R) Geotechnical study rec'd	HQ
Morrow	Turner Landfill Landfill	3/30/89	3/30/89	(C) Closure plan received	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Demolition Waste Sources - 2

Washington	Hillsboro Landfill	1/29/88	1/29/88	(N) Expansion plans received	
Washington	Lakeside Reclamation Landfill	3/23/89	3/23/89	(C) Hydro report received	HQ

Industrial Waste Sources - 10

Coos	Rogge Lumber	7/28/86	6/18/87	(C) Additional info. submitted to revise previous application	HQ
Douglas	Louisiana-Pacific Round Prarie	9/30/87	9/30/87	(R) Operational plan	HQ
Clatsop	Nygaard Logging	11/17/87	11/17/87	(N) Plan received	HQ
Columbia	Boise Cascade St. Helens	4/6/88	4/6/88	(N) As built plans received.	HQ
Douglas	Sun Studs	6/20/88	6/20/88	(R) Plans received	HQ
Douglas	Sun Studs	7/1/88	7/1/88	(R) Operational/groundwater plans received	HQ
Douglas	IP, Gardiner	8/16/88	8/16/88	(N) Plans received	HQ
Yamhill	Boise Cascade (Willamina)	9/1/88	3/14/89	(N) Plans reviewed/to Region for action	RO
Grant	Blue Mountain Forest Products	9/7/88	9/7/88	(N) Plans received	HQ
Marion	OWTD - Silverton Forest Products	12/19/88	12/19/88	(C) GW study received	HQ

Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	11/21/86	12/26/86	(N) Add'l. info. rec'd.	HQ
Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Plan received	HQ

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

April 1989
(Month and Year)

SUMMARY OF SOLID WASTE PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sites Under Permits	Sites Reqr'g Permits
	Month	FY	Month	FY			
<u>General Refuse</u>							
New	1	4	0	4	5		
Closures	-	3	-	4	4		
Renewals	-	2	-	3	12		
Modifications	-	16	0	17	0		
Total	1	25	0	28	21	180	180
<u>Demolition</u>							
New	-	1	0	1	0		
Closures	-	-	-	-	-		
Renewals	-	-	-	-	1		
Modifications	-	2	-	2	1		
Total	0	3	0	3	2	11	11
<u>Industrial</u>							
New	0	1	0	2	5		
Closures	-	-	-	-	1		
Renewals	1	2	1	9	4		
Modifications	-	8	-	8	-		
Total	1	11	1	19	10	107	107
<u>Sludge Disposal</u>							
New	-	1	-	1	1		
Closures	-	-	-	-	1		
Renewals	-	-	-	-	-		
Modifications	-	1	-	-	-		
Total	0	2	0	1	2	18	18
Total Solid Waste	2	41	1	51	35	316	316

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

April 1989
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

Clackamas	Eagle Foundry Landfill	4/20/89	Letter authorization extension granted.	
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

April 1989
(Month and Year)

PERMIT ACTIONS PENDING - 35

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Municipal Waste Sources - 21

Clackamas	Rossmans	3/14/84	2/11/87	(C) Applicant review (second draft)	HQ/RO
Baker	Haines	1/30/85	6/20/85	(R) Applicant review	HQ
Curry	Wridge Creek	2/19/86	9/2/86	(R) Draft received	HQ
Umatilla	Rahn's (Athena)	5/16/86	5/16/86	(R) Application filed	RO
Marion	Woodburn Lndfl.	9/22/86	3/3/89	(R) Draft to applicant	HQ
Coos	Bandon Landfill	1/20/87	1/7/88	(R) Draft received	HQ
Deschutes	Negus Landfill	2/4/87	11/16/87	(R) Applicant review	HQ
Douglas	Reedsport Lndfl.	5/7/87	1/11/88	(R) Draft received	HQ
Lane	Florence Landfill	9/21/87	1/12/88	(R) Draft received	HQ
Douglas	Roseburg Landfill	10/21/87	12/21/87	(R) Draft received	
Curry	Port Orford Lndfl.	12/14/87	8/18/88	(R) Applicant review	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Application received	RO/HQ
Coos	Les' Sanitary Service TS	6/30/88	8/19/88	(N) Draft received	HQ
Malheur	Brogan-Jameson	7/1/88	7/1/88	(C) Application received	RO
Malheur	Brogan TS	7/1/88	1/23/89	(N) Draft received	HQ
Tillamook	Tillamook Landfill	8/16/88	8/16/88	(N) Application received	RO
Marion	Ogden Martin	10/11/88	3/3/89	(R) Draft to applicant	HQ

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Gilliam	Arlington Landfill Closure	11/14/88	11/14/88	(C) Closure application	HQ
Deschutes	Alfalfa Landfill Closure	12/19/88	12/19/88	(C) Application received	RO
Union	North Powder	12/20/88	12/20/88	(R) Application received	HQ
Clackamas	Canby Disposal Co.	4/26/89	4/26/89	(N) Application received (transfer & recycling)	HQ

Demolition Waste Sources - 2

Coos	Bracelin/Yeager (Joe Ney)	3/28/86	8/11/88	(R) Public hearing held	HQ
Washington	Hillsboro Lndfl.	1/29/88	1/29/88	(A) Application received	HQ

Industrial Waste Sources - 10

Wallowa	Boise Cascade Joseph Mill	10/3/83	5/26/87	(R) Applicant comments received	HQ
Curry	South Coast Lbr.	7/18/86	7/18/86	(R) Application filed	RO
Baker	Ash Grove Cement West, Inc.	4/1/87	4/1/87	(N) Application received	RO
Klamath	Modoc Lumber Landfill	5/4/87	5/4/87	(R) Application filed	RO
Clatsop	Nygaard Logging	11/17/87	3/3/88	(N) Draft received	HQ
Wallowa	Sequoia Forest Ind.	11/25/87	11/25/87	(N) Application filed	RO
Douglas	Hayward Disp. Site	6/7/88	8/18/88	(R) Applicant review	HQ
Yamhill	Boise-Cascade (Willamina)	9/1/88	9/1/88	(N) Application received	RO
Klamath	Modoc Lumber Lndfl.	1/6/89	1/6/89	(N) Application received	HQ
Clatsop	James River Wauna Mills	4/28/88	3/3/89	(C) Draft closure permit	HQ

SB4968 (A) = Amendment; (C) = Closure permit;
 MAR.7S (5/79) (N) = New source; (R) = Renewal

* County *	Name of Facility	* Date * * Appl. * * Rec'd. *	* Date of * * Last * * Action *	Type of Action and Status	* Location *
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Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	5/30/86	3/10/87	(N) Add'l. info. received (addition of waste oil facility)	HQ
Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Application received	HQ/RO

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

April 1989
(Month and Year)

SUMMARY OF HAZARDOUS WASTE PROGRAM ACTIVITIES

PERMITS

	ISSUED		PLANNED
	No. This Month	No. Fiscal Year to Date (FYTD)	No. in FY 89
Treatment	0	0	0
Storage	0	0	1
Disposal	0	0	0
Post-Closure	0	0	3

INSPECTIONS

	COMPLETED		PLANNED
	No. This Month	No. FYTD	No. in FY 89
Generator	0	33	14 ¹
TSD	2	10	16 ¹

CLOSURES

	PUBLIC NOTICES			CERTIFICATIONS ACCEPTED		
	No. This Month	FYTD No.	Planned in FY 89	No. This Month	No. FYTD	No. Planned in FY 89
Treatment	0	0	0	0	0	0
Storage	0	1	2	0	0	4
Disposal	0	0	1	0	1	1

¹ SEA commitment only.

CHEM-SECURITY SYSTEMS, INC.
Arlington, Oregon

1989

HAZARDOUS WASTE ORIGINATION SOURCES

MONTHLY QUANTITY OF WASTE DISPOSED (TONS)¹

<u>Waste Source</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>YTD</u>
Oregon	2,662	530	1,695	2,500									7,387
Washington	14,233	7,106	5,974	8,909									36,222
Alaska	1,148	1,889	1,826	550									5,413
Idaho	14	29	32	19									94
California	-	-	-	21									21
CSSI ²	752	267	799	1,799									3,617
Other ³	<u>-</u>	<u>18</u>	<u>-</u>	<u>68</u>									<u>86</u>
TOTALS	18,809	9,839	10,326	13,866									52,840

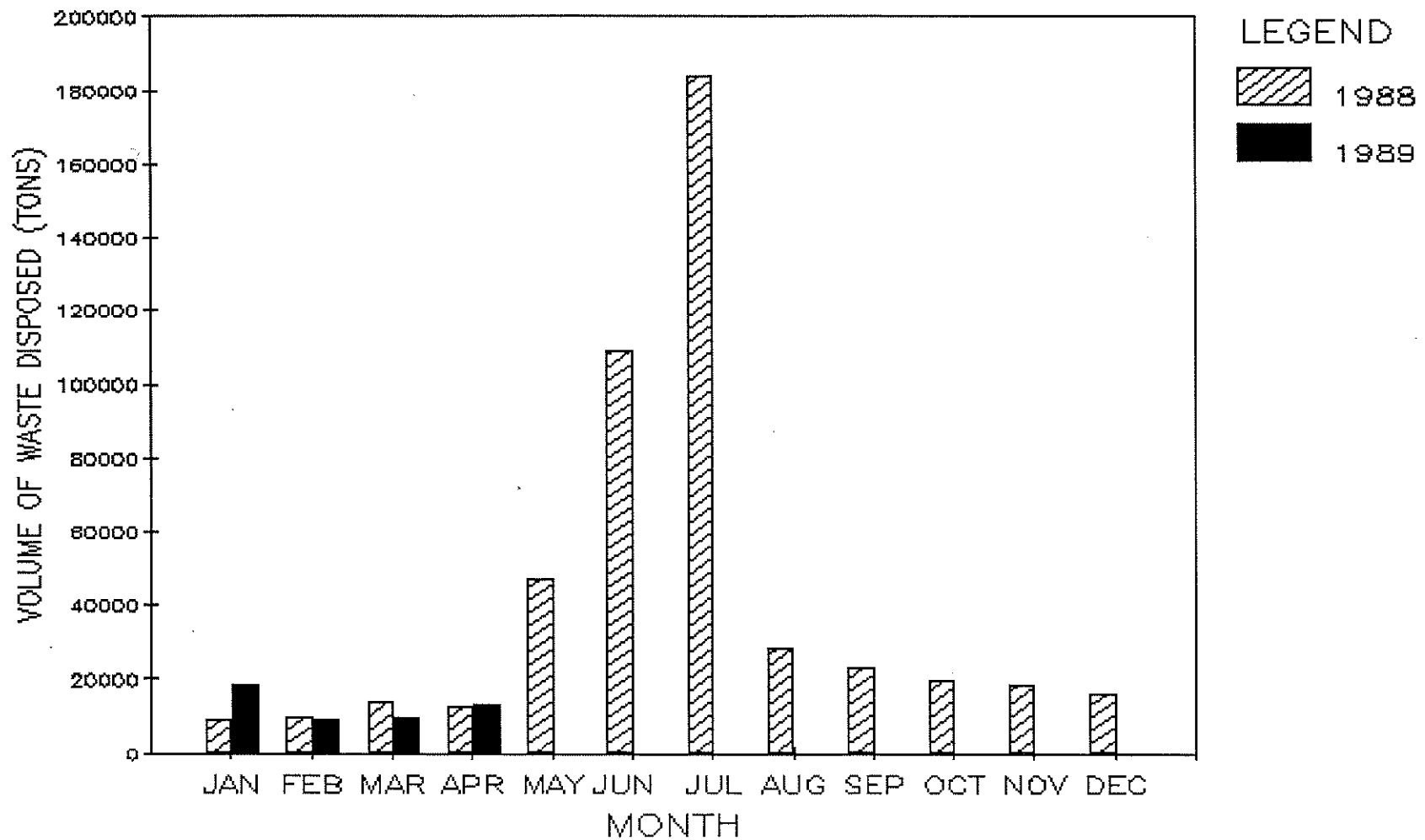
Footnotes

- 1 Quantity of waste (both RCRA and non-RCRA) received at the facility.
- 2 Waste generated on-site by CSSI.
- 3 Other waste origination sources include Montana, British Columbia.

HAZARDOUS WASTE DISPOSAL CHEM-SECURITY SYSTEMS, INC.

Arlington, Oregon

1988 - 1989 Waste Disposal Volume Comparison



DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	April, 1989 (Month and Year)
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SUMMARY OF NOISE CONTROL ACTIONS

<u>Source Category</u>	New Actions Initiated		Final Actions Completed		Actions Pending	
	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>Last Mo</u>
Industrial/ Commercial	10	89	5	129	149	144
Airports			0	9	1	1

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

<u>Noise Control Program</u> (Reporting Unit)	<u>April, 1989</u> (Month and Year)
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FINAL NOISE CONTROL ACTIONS

<u>County</u>	<u>* Name of Source and Location</u>	<u>* Date</u>	<u>* Action</u>
Multnomah	Columbia Aluminum Corp., Portland	4/89	In compliance
Washington	Oregon Canadian Forest Prod. North Plains	4/89	In compliance
Marion	Furrows Building Materials, Salem	4/89	Referred to the City of Salem
Marion	Kal Kustom Northwest, Salem	4/89	Referred to the City of Salem
Marion	Mt. Hood Spas, Salem	4/89	Referred to the City of Salem

CIVIL PENALTY ASSESSMENTS

DEPARTMENT OF ENVIRONMENTAL QUALITY
1989

CIVIL PENALTIES ASSESSED DURING MONTH OF APRIL, 1989:

<u>Name and Location of Violation</u>	<u>Case No. & Type of Violation</u>	<u>Date Issued</u>	<u>Amount</u>	<u>Status</u>
Dennis Bevins Salem, Oregon	AQOB-WVR-89-49 Open burned debris including prohibited materials (asphalt shingles).	4/6/89	\$320	Respondent requested consideration be given to mitigating the penalty amount.
Verlin E. Blanchfield dba/Blanchfield Septic Service Clackamas County	OS-NWR-89-33 Repaired two on-site sewage disposal systems without obtaining repair permits.	4/6/89	\$780	Contested on 4/26/89. Settlement conference was held on 5/15/89.
Kurtiss Allen White Klamath Falls, Oregon	SW-WT-89-59 Transported waste tires without a waste tire carrier permit, and disposed of waste tires at unauthorized location.	4/24/89	\$1,000	Unable to serve either by certified mail or by sheriff service.

April, 1989
DEQ/EQC Contested Case Log

<u>ACTIONS</u>	<u>LAST MONTH</u>	<u>PRESENT</u>
Preliminary Issues	4	3
Discovery	0	0
Settlement Action	12	15
Hearing to be scheduled	0	1
Department reviewing penalty	0	0
Hearing scheduled	3	7
HO's Decision Due	1	0
Briefing	0	0
Inactive	<u>1</u>	<u>3</u>
SUBTOTAL of cases before hearings officer	21	29
HO's Decision Out/Option for EQC Appeal	0	1
Appealed to EQC	0	0
EQC Appeal Complete/Option for Court Review	0	0
Court Review Option Taken	0	0
Case Closed	<u>1</u>	<u>0</u>
TOTAL Cases	22	30

15-AQ-NWR-87-178 15th Hearing Section case in 1987 involving Air Quality Division violation in Northwest Region jurisdiction in 1987; 178th enforcement action in the Department in 1987.

§ Civil Penalty Amount
ACDP Air Contaminant Discharge Permit
AG1 Attorney General 1
AQ Air Quality Division
AQOB Air Quality, Open Burning
CR Central Region
DEC Date Date of either a proposed decision of hearings officer or a decision by Commission
ER Eastern Region
FB Field Burning
HW Hazardous Waste
HSW Hazardous and Solid Waste Division
Hrng Rfrl Date when Enforcement Section requests Hearing Section schedule a hearing
Hrngrs Hearings Section
NP Noise Pollution
NPDES National Pollutant Discharge Elimination System wastewater discharge permit
NWR Northwest Region
OSS On-Site Sewage Section
P Litigation over permit or its conditions
Prty All parties involved
Rem Order Remedial Action Order
Resp Code Source of next expected activity in case
SS Subsurface Sewage (now OSS)
SW Solid Waste Division
SWR Southwest Region
T Litigation over tax credit matter
Transcr Transcript being made of case
Underlining New status or new case since last month's contested case log
WQ Water Quality Division
WVR Willamette Valley Region

April, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
WAH CHANG	04/78	04/78		Prtys	16-P-WQ-WVR-78-2849-J NPDES Permit Modification	New permit under negotiation. May resolve contested issues.
WAH CHANG	04/78	04/78		Prtys	03-P-WQ-WVR-78-2012-J NPDES Permit Modification	New permit under negotiation. May resolve contested issues.
DANT & RUSSELL, INC.	05/31/85	05/31/85	03/21/86	Prtys	15-HW-NWR-85-60 Hazardous waste disposal Civil Penalty of \$2,500	Settlement agreement delayed pending resolution of federal court proceedings.
BRAZIER FOREST PRODUCTS	11/22/85	12/12/85	02/10/86	DEQ	23-HSW-85-60 Declaratory Ruling	Tentative settlement reached. Department of Justice to prepare order for EQC consideration.
CSSI	3/31/88	4/19/88		Prtys	Permit 089-452-353	<u>Pre hearing conference conducted 5/11/89.</u>
GLENEDEN BRICK & TILE WORKS	9/15/88		1/18/89	Prtys	AQ-WS-88-70 \$1,500 Civil Penalty	<u>Settlement proposal before EQC 6/2/89 meeting.</u>
JOHN BOWERS	9/19/88		1/11/89	Prtys	AQOB-CR-88-58 \$1,500 Civil Penalty	<u>Settlement proposal before EQC 6/2/89 meeting.</u>
CITY OF SALEM	9/26/88		4/18/89	Prtys	Department Order	<u>Order of dismissal drafted for review by parties.</u>
IRVIN HERMENS	9/27/88		1/24/89	Prtys	WQ-WVR-88-61A \$2,500 Civil Penalty and-62B, Department Order	<u>Settlement proposal before EQC at 6/2/89 meeting.</u>

April, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrrl	Hrng Date	Resp Code	Case Type & No.	Case Status
ARIE JONGANEEL dba A.J. Dairy	10/3/88		1/20/89	Prtys	WQ-WVR-88-73A \$2,500 Civil Penalty and -73B, Department Order	Settlement action.
HARBOR OIL			<u>6/16/89</u>	Prtys	Permit 1300-J Permit Revocation	<u>Hearing scheduled.</u>
Magar E. Magar dba Riverwood Mobile Home Park	12/20/88 12/23/88	12/28/88 12/28/88	3/1/89	Prtys	WQ-NWR-88-98 Civil Penalty	<u>Settlement proposal before EQC at 6/2/89 meeting.</u>
Aart & Sheri Falk	1/5/89	1/6/89	2/17/89	Prtys	AQ-FB-88-115	Settlement action.
Ken Kuderer	1/5/89	1/6/89	3/8/89	Hrgs	AQ-FB-88-117	<u>Hearings officer affirmed liability and reduced penalty.</u>
Air Rite Control, Inc.	1/9/89	1/11/89	4/10/89	Prtys	AQ-AB-NWR-88-85 \$2,600 Civil Penalty	<u>Settlement proposal before EQC at 6/2/89 meeting.</u>
Rahenkamp Wrecking, Inc.	1/18/89	1/23/89	4/14/89	Prtys	AQ-AB-SWR-88-76 \$3,500 Civil Penalty	<u>Case will be settled or withdrawn.</u>
Larry L. Krenik	2/6/89	2/8/89	<u>5/26/89</u>	Resp	SW-WT-89-20 Order of Abatement	<u>Hearing scheduled.</u>
Safety-Kleen Corp.	2/13/89	2/13/89	<u>6/6/89</u>	Prtys	HW-WVR-89-02 Compliance Order \$11,800 in civil penalties.	<u>Hearing scheduled.</u>
Ron Graham	2/2/89	2/21/89		Resp	Challenge of agency data collection activity.	Preliminary issues.

April, 1989
DEQ/EQC Contested Case Log

<u>Pet/Resp Name</u>	<u>Hrng Rqst</u>	<u>Hrng Rfrl</u>	<u>Hrng Date</u>	<u>Resp Code</u>	<u>Case Type & No.</u>	<u>Case Status</u>
Chem-Security Systems, Inc.	3/7/89	3/8/89		Prtys	HW-ER-89-18 Compliance Order and \$19,400 in civil penalties.	<u>Settlement discussions.</u>
Richard G. & and Anne M. Schultz	3/16/89	3/27/89		Prtys	SW-WT 89 41	<u>To be scheduled week of July 3 or 10.</u>
David White	3/3/89	4/6/89	<u>5/22/89</u>	Prtys	NW-WT Permit denial	<u>Hearing scheduled.</u>
<u>Phillip Turnbull</u>	<u>3/13/89</u>	<u>3/16/89</u>	<u>5/19/89</u>	<u>Prtys</u>	<u>SW-SWR-89-03</u> <u>and penalty \$3,750</u>	<u>Settlement negotiations.</u>
<u>George N. Lammi</u>			<u>6/19/89</u>		<u>WQ-NWR-89-08</u> <u>\$11,100 civil penalty</u>	<u>Hearing scheduled.</u>
<u>Smurfit Newsprint</u>	<u>4/11/89</u>	<u>4/11/89</u>		<u>Prtys</u>	<u>AQ-NWR-89-60</u> <u>\$16,800 civil penalty</u>	<u>Settlement negotiations.</u>
<u>Holland Dairy, Inc.</u>	<u>4/17/89</u>	<u>4/17/89</u>	<u>5/10/89</u>		<u>WQ-CR-89-51</u> <u>\$8,000 civil penalty</u>	<u>Settlement proposal being reviewed.</u>
<u>Port of Astoria</u>	<u>4/12/89</u>	<u>4/12/89</u>	<u>6/15/89</u>	<u>Prtys</u>	<u>AQ-OB-NWR-89-07</u> <u>\$3,000 penalty</u>	<u>Hearing scheduled.</u>
<u>Dennis Bevins</u>	<u>4/12/89</u>	<u>4/12/89</u>			<u>AQ-OB-WVR-89-49</u> <u>\$320 civil penalty</u>	<u>Settlement negotiations.</u>
<u>Verlin Blanchfield</u>	<u>4/26/89</u>	<u>4/26/89</u>	<u>6/2/89</u>		<u>OS-NWR-89-33</u> <u>\$780 civil penalty</u>	<u>Hearing scheduled.</u>
<u>Marvin's Gardens</u>	<u>5/8/89</u>	<u>5/8/89</u>			<u>AQ-OB-CR-89-10</u>	<u>Preliminary Issues.</u>

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
 Water Quality Division and
 Solid Waste Division

(Reporting Unit)

May 1989

(Month and Year)

SUMMARY OF PLAN ACTIONS

	Plans Received		Plans Approved		Plans Disapproved		Plans Pending
	Month	FY	Month	FY	Month	FY	
<u>Air</u>							
Direct Sources	7	62	9	77	0	0	19
Small Gasoline Storage Tanks Vapor Controls	-	-	-	-	-	-	-
Total	7	62	9	77	0	0	19
<u>Water</u>							
Municipal	9	116	11	132	0	4	34
Industrial	12	79	11	71	0	0	9
Total	21	195	22	203	0	4	43
<u>Solid Waste</u>							
Gen. Refuse	2	29	1	20	0	6	34
Demolition	0	2	0	1	-	-	2
Industrial Sludge	0	6	0	5	0	3	10
	-	-	-	-	-	-	2
Total	2	37	1	26	0	9	48
<hr/>							
<u>GRAND TOTAL</u>	30	294	32	306	0	13	110

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DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PLAN ACTIONS COMPLETED

Permit Number	Source Name	County	Date Scheduled	Action Description	Date Achieved
03	2469 LONE STAR NORTHWEST	CLACKAMAS	05/17/89	COMPLETED-APRVD	06/09/89
05	1849 BOISE CASCADE CORP	COLUMBIA	05/22/89	COMPLETED-APRVD	05/24/89
05	2076 MULTNOMAH PLYWOOD CORP	COLUMBIA	04/25/89	COMPLETED-APRVD	05/11/89
22	0143 DURAFLAKE CO	LINN	03/10/89	COMPLETED-APRVD	05/15/89
			03/10/89	COMPLETED-APRVD	05/12/89
26	3249 STC SUBMARINE SYSTEMS	MULTNOMAH	05/08/89	COMPLETED-APRVD	05/18/89
34	2758 CASCADE MICROTECH, INC.	WASHINGTON	04/13/89	COMPLETED-APRVD	05/01/89
37	0293 MORSE BROS., INC.	PORT.SOURCE	04/12/89	COMPLETED-APRVD	05/12/89
37	0403 LININGER TRU-MIX	PORT.SOURCE	05/04/89	COMPLETED-APRVD	05/15/89

TOTAL NUMBER QUICK LOOK REPORT LINES

9

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

May 1989
(Month and Year)

SUMMARY OF AIR PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	<u>Month</u>	<u>FY</u>	<u>Month</u>	<u>FY</u>			
<u>Direct Sources</u>							
New	0	25	4	27	12		
Existing	0	9	1	9	7		
Renewals	4	127	5	106	93		
Modifications	1	30	1	23	14		
Trfs./Name Chng.	<u>5</u>	<u>28</u>	<u>3</u>	<u>28</u>	<u>3</u>		
Total	10	219	14	193	129	1398	1422
<u>Indirect Sources</u>							
New	4	20	2	14	8		
Existing	0	0	0	0	0		
Renewals	0	0	0	0	0		
Modifications	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>		
Total	<u>4</u>	<u>21</u>	<u>2</u>	<u>14</u>	<u>9</u>	<u>300</u>	<u>308</u>
<u>GRAND TOTALS</u>	14	240	16	207	138	1698	1730

Number of
Pending Permits

Comments

15	To be reviewed by Northwest Region
12	To be reviewed by Willamette Valley Region
9	To be reviewed by Southwest Region
14	To be reviewed by Central Region
10	To be reviewed by Eastern Region
21	To be reviewed by Program Operations Section
39	Awaiting Public Notice
<u>9</u>	Awaiting end of 30-day Public Notice Period
129	

MAR. 5
AA5323A (6/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PERMITS ISSUED

Permit Number	Source Name	County Name	Appl. Rcvd.	Status	Date Achvd.	Type Appl.
10	0141 FORMOSA EXPLORATION, INC.	DOUGLAS	03/03/89	PERMIT ISSUED	05/24/89	NEW
15	0048 MEDFORD CORPORATION	JACKSON	08/26/88	PERMIT ISSUED	06/06/89	MOD
26	1815 OWENS-CORNING FIBERGLAS	MULTNOMAH	02/28/89	PERMIT ISSUED	06/01/89	RNW
26	2197 FREIGHTLINER CORP	MULTNOMAH	09/01/88	PERMIT ISSUED	05/18/89	RNW
26	2603 JAMES RIVER PAPER CO. INC	MULTNOMAH	02/06/89	PERMIT ISSUED	05/18/89	EXT
30	0053 MERIDIAN AGGREGATES CO.	UMATILLA	05/10/89	PERMIT ISSUED	05/24/89	TRS
34	2666 PORTLAND CHAIN MFG CO	WASHINGTON	01/05/89	PERMIT ISSUED	06/01/89	RNW
34	2755 OREGON ROADS CRUSHED ROCK	WASHINGTON	12/27/88	PERMIT ISSUED	05/24/89	NEW
37	0005 CEDAR CREEK QUARRIES, INC	PORT.SOURCE	05/01/89	PERMIT ISSUED	05/18/89	TRS
37	0322 KLAMATH PACIFIC CORP.	PORT.SOURCE	04/14/89	PERMIT ISSUED	06/01/89	RNW
37	0325 WILDISH STANDARD PAVING	PORT.SOURCE	04/28/89	PERMIT ISSUED	06/06/89	RNW
37	0336 BROWN BROTHERS LOGGING	PORT.SOURCE	05/12/89	PERMIT ISSUED	05/24/89	TRS
37	0401 LT CONTRACTORS, INC.	PORT.SOURCE	02/27/89	PERMIT ISSUED	05/24/89	NEW
37	0402 J. C. COMPTON CONTRACTOR	PORT.SOURCE	03/24/89	PERMIT ISSUED	05/18/89	NEW

TOTAL NUMBER QUICK LOOK REPORT LINES

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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division

(Reporting Unit)

May 1989

(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

Indirect Sources

Multnomah	Gresham Neighborhood Center, 621 Spaces, File No. 26-8905	5/04/89	Final Permit Issued
Marion	Schoolhouse Square 352 Spaces File No. 24-8906	5/26/89	Final Permit Issued

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
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PERMIT TRANSFERS & NAME CHANGES

<u>Permit Number</u>	<u>Company Name</u>	<u>Type of Change</u>	<u>Status of Permit</u>
10-0007	Glenbrook Nickel Company	Transfer	To be issued
10-0121	Hoover Treated Wood Products	Name Change ¹	Awaiting public notice
15-0047	Westpac Moulding of Oregon	Name Change	To be issued
15-0064	Rogue Aggregates, Inc.	Transfer ¹	Awaiting public notice
21-0054	Alsea Veneer, Inc.	Name Change	To be issued
22-5196	White Plywood Co.	Transfer ¹	Awaiting public notice
30-0053	Big Horn Calcium Co	Transfer	Issued
37-0005	Cedar Creek Quarries, Inc	Transfer	Issued
37-0336	Rock Products, Inc.	Transfer	Issued

¹In conjunction with permit renewal.

²In conjunction with permit modification.

MAR.5TC
AD3481 (6/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

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PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action
*	* /Site and Type of Same	* Action	*
*	*	*	*

INDUSTRIAL WASTE SOURCES - 11

Jackson	Pacific Power & Light Co. Medford Service Center Oil Spill Containment Facility	5-3-89	Approved
Umatilla	Pacific Power & Light Co. Pendleton Service Center Oil Spill Containment Facility	5-2-89	Approved
Douglas	Pacific Power & Light Co. Roseburg Service Center Oil Spill Containment Facility	5-2-89	Approved
Coos	Pacific Power & Light Co. Lockhart Substation Oil Spill Containment Facility	5-2-89	Approved
Jackson	Medite Corporation Water Cooling Tower with Heat Exchanger	4-18-89	Approved for Construction only.
Multnomah	Pacific Metal Stripping Wastewater Pretreatment System	5-8-89	Approved
Multnomah	Steinfelds Products, Co. BIO-Por Reactor	5-16-89	Approved

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DEPARTMENT OF ENVIRONMENTAL QUALITY
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Water Quality Division
(Reporting Unit)

May 1989
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PLAN ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action	*
----------	--	-----------------------	----------	---

INDUSTRIAL WASTE SOURCES

Klamath	Pacific Power & Light Co. Oil Spill Containment Facility	5-23-89	Approved	
Polk	Rickreall Dairy Manure Control Facility	5-19-89	Approved	
Lane	Swanson Bros. Lumber Co., Inc. Asphalt Overlay for Dip Tank Drainage	5-26-89	Approved	
Multnomah	Penwalt Corporation Secondary Containment Facility for Use By-Gas System	5-15-89	Approved	

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PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES - 11

Page 1 of 2

Washington	USA Gaston Forcemain	5-25-89	Plans Accepted	
Coos	Bandon Beach View Estates for Kirk Day	5-25-89	Provisional Approval	
Lincoln	Newport Iron Mountain Beach 2nd Submittal	5-22-89	Rejected, Comments to City	
Clackamas	CCSD #1 Mt. Hood Golf Club Terrace Rhododendron Affirmative Cert.	5-22-89	Accepted	
Gilliam	Arlington Sludge Drying Beds	5-17-89	Rejected	
Lincoln	Waldport Sidehill Screen	5-11-89	Rejected	
Multnomah	Multnomah Channel Yacht Club On-Site System 1,000 gpd	5-19-89	Comments to Region & Owner	
Lane	Eugene River Road/Santa Clara Change Order Nos. 1 thru 9	5-15-89	Approved	
Marion	Amity Outfall Relocation	6-8-89	Provisional Approval	

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PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 2 of 2

Douglas	Green Sanitary District Lakewood & Georginna Sewer Extension	5-24-89	Provisional Approval
Wallowa	Wallowa Lake CSD Septic Tank Designs	5-25-89	Rejected, Comments to District

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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status
*	* /Site and Type of Same	* Received	*
*	*	*	*

INDUSTRIAL WASTE SOURCES - 9

Marion	Siltec Corporation Initial Liquid Effluent Treatment Facility	11-22-88	Review Completion Projected 6-30-89
Coos	Weyerhaeuser Paper Co. Aerators, Earthen Dikes and Floating Dikes	12-23-88	Review Completion Project 6-30-89
Lincoln	Georgia Pacific - Toledo Concrete Collection Sump with Submersible Pump and Holding Tank	3-23-89	Review Completion Projected 6-30-89
Clackamas	American Sand & Gravel Inc. Wastewater Treatment Facility	4-28-89	Review Completion Projected 6-30-89
Linn	Willamette Industries Replace Mill Effluent Line	5-18-89	Review Completion Projected 6-30-89
Clackamas	Marion L. Ruffing Manure Control Facility	5-19-89	Review Completion Projected 6-30-89
Yamhill	Taylor Lumber and Treating, Inc. Oil/Water Separator	5-26-89	Review Completion Projected 6-30-89
Clackamas	Omark Industries Groundwater Monitoring and Recovery Wells and Treatment System	5-30-89	Review Completion Projected 6-30-89
Washington	Tektronix, Inc. Groundwater Pump Back System & Air Stripping Tower and/or GAC Filtration System	5-31-89	Review Completion Projected 6-30-89

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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received *		* *
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 1 of 4

Umatilla	Larry Greenwalt Shady Rest Mobile Home Court Bottomless Sand Filter	4-21-88	Review Completion Projected 6-30-89	JLV
Clatsop	Glenwood Mobile Park Modification to dual media filter from anoxic tower	10-4-88	Review Completion Projected 6-30-89	JLV
Curry	Brookings Wastewater Treatment Plant and Conveyance System Improvements	5-31-89	Review Completion Projected 7-31-89	KMV
Clackamas	Gladstone Marsh Property	2-1-90	Review Completion Projected 6-30-89	JLV
Umatilla	Ferndale School Dist. No. 1 On-Site System Addition	2-16-89	Review Completion Projected 6-30-89	JLV
Lane	Florence River's Edge	3-15-89	Review Completion Projected 6-30-89	JLV
Lincoln	Yachats Center Way	3-15-89	Review Completion Projected 6-30-89	JLV
Jefferson	United Methodist Church Sutt Lake Camp Sewerage System Reconstruction	3-23-89	Review Completion Projected 6-30-89	JLV
Tillamook	Evergreen Gardens Sewerage Pump Station 2nd Submittal	6-1-89	Completion by 6-30-89	DSM
Marion	Jefferson Sewer Repairs	6-12-89	Completion by 6-30-89	DSM

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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received *		*
*	*	*		*

MUNICIPAL WASTE SOURCES

Page 2 of 4

Lincoln	Newport Iron Mountain Beach Sewers 3rd Submittal	6-8-89	Completion by 6-30-89	DSM
Benton	Albany STP Improvements 50% Design Review	6-6-89	Completion by 6-30-89	DSM
Clatsop	Seaside Circle Creek Campground	3-28-89	Review Completion Projected 6-30-89	JLV
Union	Union Headworks Improvement	3-30-89	Review Completion Projected 6-30-89	JLV
Coos	Bandon Beach View Estates	4-12-89	Review Completion Projected 6-30-89	JLV
Crook	Prineville Algonquin Subdivision	4-24-89	Review Completion Projected 6-30-89	JLV
Lincoln	Taylor's Landing RV Park Recirculating Gravel Filter	4-26-89	Review Completion Projected 6-30-89	JLV
Linn	Harrisburg Sewer Rehabilitation	5-10-89	Review Completion Projected 6-30-89	GLS
Tillamook	Pacific Coast Recreation RV Park Collection/Treatment/Disposal Preliminary	5-17-89	Review Completion Projected 6-30-89	JLV
Linn	Lebanon Our Savior's Lutheran Church	5-23-89	Review Completion Projected 6-30-89	JLV

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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received *	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 3 of 4

Umatilla	Umatilla Utility Extensions	5-25-89	Review Completion Projected 6-30-89	JLV
Clackamas	Oak Lodge Sanitary District Robert McCallister	5-26-89	Review Completion Project 6-30-89	JLV
Linn	Halsey Lagoon Expansion; Pump Station Upgrading	5-26-89	Review Completion Projected 6-30-89	JLV
Josephine	Grants Pass Riverwood Apts.	5-30-89	Review Completion Projected 6-30-89	JLV
- - - - - PROJECTS BELOW ARE "ON-HOLD" - - - - -				
Columbia	Scappoose Sewage Treatment Plant Expansion	3-11-87	On Hold, Financing Incomplete	DSM
Deschutes	Romaine Village Recirculating Gravel Filter (Revised)	4-27-87	On Hold For Surety Bond	Not Assigned
Marion	Breitenbush Hot Springs On-Site System	5-27-86	On Hold, Uncertain Financing	JLV
Curry	Whaleshead Beach Campground Gravel Recirculation Filter (Revised)	5-20-87	Holding for Field Inspection	JLV
Multnomah	Troutdale Frontage Road Sewage Pump Station Replacement	4-25-88	Bids Rejected, Being Redesigned	DSM
Deschutes	Bend Bend Millwork Sewer and Pump Station	1-30-89	Plan Rejected Awaiting Design Revisions	DSM

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DEPARTMENT OF ENVIRONMENTAL QUALITY
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PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received *	*	* *
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 4 of 4

"ON-HOLD" (Cont'd)

Polk	Falls City Phase II Improvements	2-22-89	Awaiting NPDES Permit	JLV
Clackamas	Government Camp San. Dist. Mt. Hood Motel	11-21-88	Awaiting Easement for District	JLV
Yamhill	Sheridan Wastewater Lagoon Expansion	4-18-89	Awaitng Irrigation Sites Evaluation and NPDES Permit	JLV
Tillamook	NTSCA Paradise Cove RV Park Pump Station/Forcemain	5-12-89	Awaiting redesign	JLV

Summary of Actions Taken on Water Permit Applications in MAY 89
06/07/89

Source Category & Permit Subtype	Number of Applications Filed						Number of Permits Issued						Applications Pending Permits Issuance (1)			Current Number of Active Permits			
	Month			Fiscal Year			Month			Fiscal Year			NPDES	WPCF	Gen	NPDES	WPCF	Gen	
	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen							
Domestic																			
NEW			3	1	22	3		2		2	13		4	22	3				
RW				1	1					2	1		2	1					
RWO	4			45	22		2	1		12	14		94	42					
MW				3									4						
MWO				5	8			1		5	11		3	2					
Total	4	3		55	53	3	2	4		21	39		107	67	3		225	206	29
Industrial																			
NEW	2		5	9	10	47	1		4	3	10	57	9	11	13				
RW				2						2			2						
RWO	3	2		23	17		1			16	10		28	23					
MW										1			3						
MWO				6	6	6				6	7		1	1					
Total	5	2	5	40	33	53	2	4		28	27	57	43	35	13		157	131	462
Agricultural																			
NEW					3				3		1	111			1				
RW																			
RWO					3						1		1	3					
MW																			
MWO					1						2								
Total					7				3		4	111	1	4			2	9	713
Grand Total	9	5	5	95	93	56	4	4	7	49	70	168	151	106	16		384	346	1204

1) Does not include applications withdrawn by the applicant, applications where it was determined a permit was not needed, and applications where the permit was denied by DEQ.

It does include applications pending from previous months and those filed after 31-MAY-89 .

- NEW - New application
- RW - Renewal with effluent limit changes
- RWO - Renewal without effluent limit changes
- MW - Modification with increase in effluent limits
- MWO - Modification without increase in effluent limits

PERMIT CAT NUMBER	SUB- TYPE OR	NUMBER	FACILITY	FACILITY	NAME	CITY	COUNTY/REGION	DATE ISSUED	DATE EXPIRES
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General: Cooling Water

IND	100	GEN01	NEW	OR003277-8	104528/A	BENTON COUNTY SCHOOL DISTRICT UH 1-J	MONROE	BENTON/WVR	23-MAY-89	31-DEC-90
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General: Suction Dredges

IND	700	GEN07	NEW		104512/A	WALES, JOSEPH LEE		MOBILE SRC/ALL	04-MAY-89	31-JUL-91
IND	700	GEN07	NEW		104529/A	BAMFORD, RICHARD		MOBILE SRC/ALL	23-MAY-89	31-JUL-91
IND	700	GEN07	NEW		104534/A	PARKER, CHARLES, RICKY, LEON & HUMPHRIES, DAVID		MOBILE SRC/ALL	31-MAY-89	31-JUL-91

General: Confined Animal Feeding

AGR	800	GEN08	NEW		104513/A	COX, BOB & BETTY	LEBANON	LINN/WVR	08-MAY-89	31-JUL-92
AGR	800	GEN08	NEW		104525/A	GANTENBEIN, JOHN J. & JEAN A.	BORING	CLACKAMAS/NWR	15-MAY-89	31-JUL-92
AGR	800	GEN08	NEW		104526/A	BAKER, DOUGLAS	VALE	MALHEUR/ER	17-MAY-89	31-JUL-92

NPDES

IND	100573	NPDES	NEW	OR003273-5	102770/A	BONNANZA MINING, INC.	HALFWAY	BAKER/ER	02-MAY-89	30-APR-94
DOM	100576	NPDES	RWO	OR002019-2	3384/A	ARLINGTON, CITY OF	ARLINGTON	GILLIAM/ER	12-MAY-89	31-MAR-94
DOM	100577	NPDES	RWO	OR002720-1	78405/A	SALISHAN SANITARY DISTRICT	GLENEDEN BEACH	LINCOLN/WVR	12-MAY-89	30-MAR-94
IND	100579	NPDES	RWO	OR000020-5	16048/A	CHEVRON USA, INC.	COOS BAY	COOS/SWR	19-MAY-89	31-MAR-94

WPCF

ALL PERMITS ISSUED BETWEEN 01-MAY-89 AND 31-MAY-89
 ORDERED BY PERMIT TYPE, ISSUE DATE, PERMIT NUMBER

DOM 100574 WPCF RWO	16597/A CLACKAMAS COUNTY SERVICE DISTRICT #1 REDLAND	CLACKAMAS/NWR	10-MAY-89	30-APR-94
DOM 100575 WPCF NEW	26935/A ELKTON, CITY OF	ELKTON	DOUGLAS/SWR	11-MAY-89 30-APR-94
DOM 100509 WPCF MWO	100051/A BIG OAK MARINA, INC. AND PORTLAND CASSELMAN'S WHARF, INC.	MULTNOMAH/NWR	31-MAY-89	31-AUG-93
DOM 100578 WPCF NEW	104088/A UNITED METHODIST CHURCH, OR - ID ANNUAL CONFERENCE OF THE	JEFFERSON/CR	31-MAY-89	30-APR-94

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

May 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	*/Site and Type of Same	* Action	*	*
*	*	*	*	*
Marion	N. Marion County Disposal Facility	5/31/89	Plans reviewed; comments provided. (Expansion of backup landfill).	

DEPARTMENT OF ENVIRONMENTAL QUALITY

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PLAN ACTIONS PENDING - 48

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Municipal Waste Sources - 34

Baker	Haines	12/13/85	12/13/85	(R) Plan received	HQ
Deschutes	Knott Pit Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Fryrear Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Negus Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Marion	Ogden Martin Brooks ERF	3/24/87	3/24/87	(N) As-built plans rec'd.	HQ
Douglas	Reedsport Lndfl.	5/7/87	5/7/87	(R) Plan received	HQ
Benton	Coffin Butte	6/1/87	6/1/87	(R) Plan received	HQ
Umatilla	City of Milton-Freewater	11/19/87	11/19/87	(N) Plan received (groundwater study)	HQ
Marion	Ogden-Martin (metal rec.)	11/20/87	11/20/87	(N) Plan received	HQ
Marion	Browns Island Landfill	11/20/87	11/20/87	(C) Plan received (groundwater study)	HQ
Harney	Burns-Hines	12/16/87	12/16/87	(R) Plan received	HQ
Marion	Woodburn TS	1/5/88	1/5/88	(N) Revised plan rec'd.	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Plans received	HQ
Umatilla	Pendleton Landfill	6/6/88	6/6/88	(R) Plans received	HQ
Coos	Les' Sanitary Service TS	6/30/88	6/30/88	(N) Plans received.	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
Malheur	Brogan TS	7/1/88	7/1/88	(N) Plans received.	HQ
Marion	Marion Recycling Center, Inc.	7/20/88	7/20/88	(N) Plans received	HQ
Douglas	Lemolo Transfer	9/1/88	9/1/88	(M) Plans received	HQ
Lane	Franklin Landfill	9/29/88	9/29/88	(R) Groundwater report received.	HQ
Umatilla	Athena Landfill	11/15/88	11/15/88	(M) Plans received	
Jackson	Ashland Landfill	12/1/88	12/1/88	(N) Plans received	HQ
Lake	Lake County Lndfl.	12/5/88	12/5/88	(C) Plans received	HQ
Deschutes	Alfalfa Landfill	12/19/88	12/19/88	(C) Plans received	HQ
Morrow	Heppner Landfill	12/20/88	12/20/88	(N) Plans received	HQ
Mutlnomah	St. Johns Landfill Groundwater study	12/22/88	12/22/88	(C) GW study received	HQ
Marion	Woodburn Ashfill	1/3/89	1/3/89	() As-built plans rec'd.	HQ
Gilliam	Ore. Wste. Sys. (O.W.S.) Landfill	2/14/89	4/27/89	(N) Add'l plan information received	HQ
Lincoln	Agate Beach Lndfl.	2/27/89	2/27/89	() Leachate plan rec'd.	HQ
Gilliam	S. Gilliam Co. Landfill	3/1/89	3/1/89	(C) Plan received	HQ
Wallowa	Ant Flat Landfill	3/13/89	3/13/89	(N) Plan received	HQ
Klamath	Klamath Falls	3/27/89	3/27/89	(R) Geotechnical study rec'd	HQ
Morrow	Turner Landfill Landfill	3/30/89	3/30/89	(C) Closure plan received	HQ
Yamhill	Riverbend Landfill	5/1/89	5/1/89	(A) Plans received (landfill improvements).	HQ
Jackson	South Stage Lndfl.	5/10/89	5/10/89	() Phase I hydrogeologic report and workplan for Phase II hydrogeologic investigation received.	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Demolition Waste Sources - 2

Washington	Hillsboro Landfill	1/29/88	1/29/88	(N) Expansion plans received	
Washington	Lakeside Reclamation Landfill	3/23/89	3/23/89	(C) Hydro report received	HQ

Industrial Waste Sources - 10

Coos	Rogge Lumber	7/28/86	6/18/87	(C) Additional info. submitted to revise previous application	HQ
Douglas	Louisiana-Pacific Round Prarie	9/30/87	9/30/87	(R) Operational plan	HQ
Clatsop	Nygaard Logging	11/17/87	11/17/87	(N) Plan received	HQ
Columbia	Boise Cascade St. Helens	4/6/88	4/6/88	(N) As built plans received.	HQ
Douglas	Sun Studs	6/20/88	6/20/88	(R) Plans received	HQ
Douglas	Sun Studs	7/1/88	7/1/88	(R) Operational/groundwater plans received	HQ
Douglas	IP, Gardiner	8/16/88	8/16/88	(N) Plans received	HQ
Yamhill	Boise Cascade (Willamina)	9/1/88	3/14/89	(N) Plans reviewed/to Region for action	RO
Grant	Blue Mountain Forest Products	9/7/88	9/7/88	(N) Plans received	HQ
Marion	OWTD - Silverton Forest Products	12/19/88	12/19/88	(C) GW study received	HQ

Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	11/21/86	12/26/86	(N) Add'l. info. rec'd.	HQ
Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Plan received	HQ

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Hazardous and Solid Waste Division
(Reporting Unit)

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SUMMARY OF SOLID WASTE PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sites Under Permits	Sites Reqr'g Permits
	Month	FY	Month	FY			
<u>General Refuse</u>							
New	0	5	0	4	5		
Closures	-	4	-	5	3		
Renewals	-	2	-	3	12		
Modifications	2	18	1	18	1		
Total	2	29	1	30	21	180	180
<u>Demolition</u>							
New	-	1	0	1	0		
Closures	-	-	-	-	-		
Renewals	-	-	-	-	1		
Modifications	-	2	-	2	1		
Total	0	3	0	3	2	11	11
<u>Industrial</u>							
New	4	5	4	6	5		
Closures	-	-	-	-	1		
Renewals	0	2	0	9	4		
Modifications	1	9	-	8	1		
Total	5	16	4	23	11	107	107
<u>Sludge Disposal</u>							
New	-	1	-	1	1		
Closures	-	-	-	-	1		
Renewals	-	-	-	-	-		
Modifications	-	1	-	1	-		
Total	0	2	0	2	2	18	18
Total Solid Waste	7	50	5	58	36	316	316

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

May 1989
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action	*
Crook	Crook County Parks & Recreation District (log deck wastes)	5/1/89	Letter authorization issued.	*
Morrow	Maine Excavating Company (log deck wastes)	5/12/89	Letter authorization issued.	*
Union	R.D. Mac (log deck wastes)	5/19/89	Letter authorization issued.	*
Lincoln	Leland Oldenburg (log deck wastes)	5/22/89	Letter authorization issued.	*
Jackson	South Stage Landfill	5/25/89	Addendum issued.	*

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

May 1989
(Month and Year)

PERMIT ACTIONS PENDING - 36

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action* *	Type of Action and Status	* Location *
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Municipal Waste Sources - 21

Clackamas	Rossmans	3/14/84	2/11/87	(C) Applicant review (second draft)	HQ/RO
Baker	Haines	1/30/85	6/20/85	(R) Applicant review	HQ
Curry	Wridge Creek	2/19/86	9/2/86	(R) Draft received	HQ
Umatilla	Rahn's (Athena)	5/16/86	5/16/86	(R) Application filed	RO
Marion	Woodburn Lndfl.	9/22/86	3/3/89	(R) Draft to applicant	HQ
Coos	Bandon Landfill	1/20/87	1/7/88	(R) Draft received	HQ
Deschutes	Negus Landfill	2/4/87	11/16/87	(R) Applicant review	HQ
Douglas	Reedsport Lndfl.	5/7/87	1/11/88	(R) Draft received	HQ
Lane	Florence Landfill	9/21/87	1/12/88	(R) Draft received	HQ
Douglas	Roseburg Landfill	10/21/87	12/21/87	(R) Draft received	
Curry	Port Orford Lndfl.	12/14/87	8/18/88	(R) Applicant review	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Application received	RO/HQ
Coos	Les' Sanitary Service TS	6/30/88	8/19/88	(N) Draft received	HQ
Malheur	Brogan TS	7/1/88	1/23/89	(N) Draft received	HQ
Tillamook	Tillamook Landfill	8/16/88	8/16/88	(N) Application received	RO
Marion	Ogden Martin	10/11/88	3/3/89	(R) Draft to applicant	HQ

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Gilliam	Arlington Landfill Closure	11/14/88	11/14/88	(C) Closure application	HQ
Deschutes	Alfalfa Landfill Closure	12/19/88	12/19/88	(C) Application received	RO
Union	North Powder	12/20/88	12/20/88	(R) Application received	HQ
Clackamas	Canby Disposal Co.	4/26/89	4/26/89	(N) Application received (transfer & recycling)	HQ
Yamhill	Newberg Transfer & Recycling	5/22/89	5/22/89	(A) Application received (tire storage increase)	HQ

Demolition Waste Sources - 2

Coos	Bracelin/Yeager (Joe Ney)	3/28/86	8/11/88	(R) Public hearing held	HQ
Washington	Hillsboro Lndfl.	1/29/88	1/29/88	(A) Application received	HQ

Industrial Waste Sources - 11

Wallowa	Boise Cascade Joseph Mill	10/3/83	5/26/87	(R) Applicant comments received	HQ
Curry	South Coast Lbr.	7/18/86	7/18/86	(R) Application filed	RO
Baker	Ash Grove Cement West, Inc.	4/1/87	4/1/87	(N) Application received	RO
Klamath	Modoc Lumber Landfill	5/4/87	5/4/87	(R) Application filed	RO
Clatsop	Nygaard Logging	11/17/87	3/3/88	(N) Draft received	HQ
Wallowa	Sequoia Forest Ind.	11/25/87	11/25/87	(N) Application filed	RO
Douglas	Hayward Disp. Site	6/7/88	8/18/88	(R) Applicant review	HQ
Yamhill	Boise-Cascade (Willamina)	9/1/88	9/1/88	(N) Application received	RO
Klamath	Modoc Lumber Lndfl.	1/6/89	1/6/89	(N) Application received	HQ

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Clatsop	James River Wauna Mills	4/28/88	3/3/89	(C) Draft closure permit	HQ
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Clatsop	James River Wauna Mills	5/30/89	5/30/89	(A) Application received	HQ
---------	-------------------------	---------	---------	--------------------------	----

Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	5/30/86	3/10/87	(N) Add'l. info. received (addition of waste oil facility)	HQ
------	---------------------	---------	---------	--	----

Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Application received	HQ/RO
------	--------------------------	---------	---------	--------------------------	-------

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

May 1989
(Month and Year)

SUMMARY OF HAZARDOUS WASTE PROGRAM ACTIVITIES

PERMITS

	ISSUED		PLANNED
	No. This <u>Month</u>	No. Fiscal Year to Date (FYTD)	No. in FY 89
Treatment	0	0	0
Storage	0	0	1
Disposal	0	0	0
Post-Closure	0	0	3

INSPECTIONS

	COMPLETED		PLANNED
	No. This <u>Month</u>	No. <u>FYTD</u>	No. in FY 89
Generator	8	41	14 ¹
TSD	2	12	16 ¹

CLOSURES

	PUBLIC NOTICES			CERTIFICATIONS ACCEPTED		
	No. This <u>Month</u>	FYTD <u>No.</u>	Planned in FY 89	No. This <u>Month</u>	No. FYTD <u>FYTD</u>	No. Planned in FY 89
Treatment	0	0	0	0	0	0
Storage	0	1	2	0	0	4
Disposal	0	0	1	0	1	1

¹ SEA commitment only.

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	May, 1989 (Month and Year)
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SUMMARY OF NOISE CONTROL ACTIONS

<u>Source Category</u>	New Actions Initiated		Final Actions Completed		Actions Pending	
	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>Last Mo</u>
Industrial/ Commercial	13	102	10	139	152	149
Airports			1	10	1	1

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

<u>Noise Control Program</u>	<u>May, 1989</u>
(Reporting Unit)	(Month and Year)

FINAL NOISE CONTROL ACTIONS

<u>County</u>	<u>* Name of Source and Location</u>	<u>* Date</u>	<u>* Action</u>
Clackamas	Avison Lumber, Mill #1, Molalla	5/89	In compliance
Clackamas	Coo Sand Corporation, Clackamas	5/89	No violation
Multnomah	Dave's Auto, Portland	5/89	Referred to Multnomah Co.
Multnomah	Hair Fashions by Susan, Portland	5/89	No violation
Multnomah	National Paper Salvage, Portland	5/89	In compliance
Multnomah	Union Pacific Railroad, N. Columbia Blvd, Portland	5/89	Referred to Federal Rail. Administration
Washington	Tom McCall Middle School, Forest Grove	5/89	In compliance
Washington	Wallace Sweeper Service, Forest Grove	5/89	No violation
Deschutes	Coast to Coast Store, Bend	5/89	In compliance
Union	Union Pacific Railroad, Perry	5/89	Referred to Federal Rail. Administration
 <u>Airport</u>			
Lane	Cottage Grove State Airport, Cottage Grove	5/89	Master Plan Boundaries Approved

CIVIL PENALTY ASSESSMENTS

DEPARTMENT OF ENVIRONMENTAL QUALITY

1989

CIVIL PENALTIES ASSESSED DURING MONTH OF MAY, 1989:

<u>Name and Location of Violation</u>	<u>Case No. & Type of Violation</u>	<u>Date Issued</u>	<u>Amount</u>	<u>Status</u>
Marvin Mix dba/Marvin's Gardens Bend, Oregon	AQOB-CR-89-70 Open burned land clear- ing debris (demolition waste).	5/3/89	\$800	Contested on 5/10/89.
John Kohansby and Sylvione Kohansby dba/Rogue Villa Trailer Park Gold Hill, Oregon	AQOB-SWR-89-61 Open burned commercial waste.	5/3/89	\$600	Contested on 5/25/89.
Permapost Products Co. Hillsboro, Oregon	HW-NWR-89-88 Failed to follow the groundwater sampling and analysis plan.	5/9/89	\$1,000	Default Order and Judgment issued on 6/5/89.
Medical Research Foundation of Oregon dba/Oregon Regional Primate Research Center Beaverton, Oregon	HW-NWR-89-75 Violations of the hazardous waste manage- ment rules.	5/9/89	\$3,600	Paid on 5/18/89.
Stat Construction Resources, Inc. Portland, Oregon	AQAB-NWR-89-78 Failed to remove asbestos containing materials before demolishing a structure.	5/17/89	\$1,200	Awaiting response to notice.
Chem-Security System's Inc. Arlington, Oregon	HW-ER-89-43 Two violations of its permits.	5/19/89	\$4,900	Awaiting response to notice.
Kevin Weavill Salem, Oregon	AQOB-WVR-89-84 Open burning domestic waste.	5/31/89	\$280	Awaiting response to notice.

May, 1989
DEQ/EQC Contested Case Log

<u>ACTIONS</u>	<u>LAST MONTH</u>	<u>PRESENT</u>
Preliminary Issues	3	3
Discovery	0	0
Settlement Action	15	12
Hearing to be scheduled	1	1
Department reviewing penalty	0	0
Hearing scheduled	7	4
HO's Decision Due	0	1
Briefing	0	0
Inactive	<u>3</u>	<u>1</u>
SUBTOTAL of cases before hearings officer	29	22
HO's Decision Out/Option for EQC Appeal	1	2
Appealed to EQC	0	0
EQC Appeal Complete/Option for Court Review	0	0
Court Review Option Taken	0	0
Case Closed	<u>0</u>	<u>8</u>
TOTAL Cases	30	32

15-AQ-NWR-87-178 15th Hearing Section case in 1987 involving Air Quality Division violation in Northwest Region jurisdiction in 1987; 178th enforcement action in the Department in 1987.

§ Civil Penalty Amount

ACDP Air Contaminant Discharge Permit

AGl Attorney General 1

AQ Air Quality Division

AQOB Air Quality, Open Burning

CR Central Region

DEC Date Date of either a proposed decision of hearings officer or a decision by Commission

ER Eastern Region

FB Field Burning

HW Hazardous Waste

HSW Hazardous and Solid Waste Division

Hrng Rfrl Date when Enforcement Section requests Hearing Section schedule a hearing

Hrngrs Hearings Section

NP Noise Pollution

NPDES National Pollutant Discharge Elimination System wastewater discharge permit

NWR Northwest Region

OSS On-Site Sewage Section

P Litigation over permit or its conditions

Prty All parties involved

Rem Order Remedial Action Order

Resp Code Source of next expected activity in case

SS Subsurface Sewage (now OSS)

SW Solid Waste Division

SWR Southwest Region

T Litigation over tax credit matter

Transcr Transcript being made of case

Underlining New status or new case since last month's contested case log

WQ Water Quality Division

WVR Willamette Valley Region

CONTES.B

May, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
[WAH-GHANG	04/78	04/78		Prtys	16-P-WQ-WVR-78-2849-J} [NPDES-Permit} [Modification}	<u>New permit issued. No appeal.</u> <u>Case closed.</u>
[WAH-GHANG	04/78	04/78		Prtys	03-P-WQ-WVR-78-2012-J} [NPDES-Permit} [Modification}	<u>New permit issued. No appeal.</u> <u>Case closed.</u>
DANT & RUSSELL, INC.	05/31/85	05/31/85	03/21/86	Prtys	15-HW-NWR-85-60 Hazardous waste disposal Civil Penalty of \$2,500	Settlement agreement delayed pending resolution of federal court proceedings.
BRAZIER FOREST PRODUCTS	11/22/85	12/12/85	02/10/86	Resp	23-HSW-85-60 Declaratory Ruling	Tentative settlement reached. Department of Justice to prepare order for EQC consideration.
CSSI	3/31/88	4/19/88		Prtys	Permit 089-452-353	<u>Hearing in process.</u>
[GLENEDEN-BRIGK-& [FILE-WORKS	9/15/88		1/18/89	Prtys	AQ-WS-88-70} \$1,500-Civil-Penalty}	<u>EQC reduced penalty to \$750.</u> <u>Case closed.</u>
[JOHN-BOWERS	9/19/88		1/11/89	Prtys	AQOB-GR-88-58} [\$1,500-Civil-Penalty}	<u>EQC conditionally suspended/ waived \$750. Case closed.</u>
CITY OF SALEM	9/26/88		4/18/89	Prtys	Department Order	<u>Order of dismissal issued 5/19/89.</u>
[IRVEN-HERMENS	9/27/88		1/24/89	Prtys	WQ-WVR-88-61A} [\$2,500-Civil-Penalty} [and-62B,-Department} [Order}	<u>EQC required installation and operation of a manure separator and required penalty to \$650. conditionally suspending and waiving \$1,850. Case closed.</u>

May, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
ARIE JONGANEEL dba A.J. Dairy	10/3/88		1/20/89	Prtys	WQ-WVR-88-73A \$2,500 Civil Penalty and -73B, Department Order	Settlement action.
HARBOR OIL			6/16/89	Prtys	Permit 1300-J Permit Revocation	<u>Stipulated order signed by parties.</u>
[Magar -E. Magar [dba -Riverwood [Mobile -Home -Park	-----12/20/88 ----- -----12/23/88	-----12/28/88 ----- -----12/28/88	-----3/1/89	-----Prtys	-----WQ-NWR-88-98} -----\$1,800} -----Civil -Penalty}	<u>EOC required installation of sewage flow meter, and construction of access port and reduced penalty to \$900.</u> <u>Case closed.</u>
Aart & Sheri Falk	1/5/89	1/6/89	2/17/89	Prtys	AQ-FB-88-115	Settlement action.
[Ken -Kuderer	-----1/5/89	-----1/6/89	-----3/8/89	-----Hrgs	-----AQ-FB-88-117}	Hearings officer affirmed liability and reduced penalty. <u>No appeal. Case closed.</u>
[Air -Rite -Control, [Ine.	---1/9/89 -----	---1/11/89 -----	---4/10/89	---Prtys	---AQ-AB-NWR-88-85} ---\$2,600 -Civil -Penalty}	<u>EOC reduced penalty to \$1,000.</u> <u>Case closed.</u>
Rahenkamp Wrecking, Inc.	1/18/89	1/23/89	4/14/89	Prtys	AQ-AB-SWR-88-76 \$3,500 Civil Penalty	Case will be settled or withdrawn.
Larry L. Krenik	2/6/89	2/8/89	5/26/89	Hrgs	SW-WT-89-20 Order of Abatement	<u>Krenik agreed to dismissal of appeal and issuance of Order of Abatement.</u>
Safety-Kleen Corp.	2/13/89	2/13/89	6/6/89	Prtys	HW-WVR-89-02 Compliance Order \$11,800 in civil penalties.	<u>Settlement to be submitted to EOC for approval.</u>

May, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrrl	Hrng Date	Resp Code	Case Type & No.	Case Status
Ron Graham	2/2/89	2/21/89		Resp	Challenge of agency data collection activity.	Preliminary issues.
Chem-Security Systems, Inc.	3/7/89	3/8/89		Prtys	HW-ER-89-18 Compliance Order and \$19,400 in civil penalties.	Settlement discussions.
Richard G. & and Anne M. Schultz	3/16/89	3/27/89		Prtys	SW-WT 89 41	To be scheduled week of July 3 or 10.
David White	3/3/89	4/6/89	5/22/89	Prtys	NW-WT Permit denial	<u>Hearings officer affirmed permit denial 6/1/89.</u>
Phillip Turnbull	3/13/89	3/16/89	5/19/89	Prtys	SW-SWR-89-03 and penalty \$3,750	Settlement negotiations.
George N. Lammi			6/19/89		WQ-NWR-89-08 \$11,100 civil penalty	Hearing scheduled.
Smurfit Newsprint	4/11/89	4/11/89		Prtys	AQ-NWR-89-60 \$16,800 civil penalty	Settlement negotiations.
Holland Dairy, Inc.	4/17/89	4/17/89	5/10/89		WQ-CR-89-51 \$8,000 civil penalty	Settlement proposal being reviewed.
Port of Astoria	4/12/89	4/12/89	6/15/89	Prtys	AQ-OB-NWR-89-07 \$3,000 penalty	Hearing scheduled.
Dennis Bevins	4/12/89	4/12/89			AQ-OB-WVR-89-49 \$320 civil penalty	Settlement negotiations.
Verlin Blanchfield	4/26/89	4/26/89	6/2/89		OS-NWR-89-33 \$780 civil penalty	Hearing scheduled.
Marvin's Gardens	5/8/89	5/8/89	<u>7/6/89</u>		AQ-OB-CR-89-10	<u>Hearing scheduled.</u>

May, 1989
DEQ/EQC Contested Case Log

<u>Pet/Resp Name</u>	<u>Hrng Rqst</u>	<u>Hrng Rfrl</u>	<u>Hrng Date</u>	<u>Resp Code</u>	<u>Case Type & No.</u>	<u>Case Status</u>
<u>Kohansby</u>	<u>5/25/89</u>	<u>5/26/89</u>		<u>Prtys</u>	<u>AQ-OB-SWR-89-61</u> <u>\$600 civil penalty</u>	<u>Preliminary issues.</u>
<u>CSSI II</u>	<u>6/8/89</u>	<u>6/8/89</u>		<u>Prtys</u>	<u>HW-ER-89-43</u> <u>ORD 089 452 353</u> <u>Compliance Order</u> <u>and \$4,900 civil</u> <u>penalty</u>	

DEPARTMENT OF ENVIRONMENTAL QUALITY

Monthly Activity Report

June 1989

DEPARTMENT OF ENVIRONMENTAL QUALITY

Monthly Activity Report

June 1989

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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
 Water Quality Division and
Solid Waste Division
 (Reporting Unit)

June 1989
 (Month and Year)

SUMMARY OF PLAN ACTIONS

	Plans Received		Plans Approved		Plans Disapproved		Plans Pending
	Month	FY	Month	FY	Month	FY	
<u>Air</u>							
Direct Sources	7	69	1	78	0	0	24
Small Gasoline Storage Tanks Vapor Controls	-	-	-	-	-	-	-
Total	7	69	1	78	0	0	24
<u>Water</u>							
Municipal	12	116	7	139	1	5	41
Industrial	5	84	4	75	0	0	10
Total	17	200	11	214	1	5	51
<u>Solid Waste</u>							
Gen. Refuse	2	31	1	22	-	6	34
Demolition	-	2	0	1	-	-	2
Industrial	1	7	0	5	0	3	11
Sludge	-	-	-	-	-	-	2
Total	3	40	1	28	0	9	49
<u>GRAND TOTAL</u>	27	309	13	320	1	14	124

MY8721

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PLAN ACTIONS COMPLETED

Permit Number	Source Name	County	Date Scheduled	Action Description	Date Achieved
30	0107 A E STALEY MANUFACTURING	UMATILLA	05/12/89	COMPLETED-APRVD	06/21/89

TOTAL NUMBER QUICK LOOK REPORT LINES 1

06: 2

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

June 1989
(Month and Year)

SUMMARY OF AIR PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sources Under Permits	Sources Reqr'g Permits
	<u>Month</u>	<u>FY</u>	<u>Month</u>	<u>FY</u>			
<u>Direct Sources</u>							
New	3	28	0	27	15		
Existing	0	9	0	9	7		
Renewals	9	136	5	111	98		
Modifications	2	32	1	24	17		
Trfs./Name Chng.	<u>1</u>	<u>29</u>	<u>3</u>	<u>31</u>	<u>1</u>		
Total	15	234	9	202	138	1398	1422
<u>Indirect Sources</u>							
New	1	21	2	16	7		
Existing	0	0	0	0	0		
Renewals	0	0	0	0	0		
Modifications	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>		
Total	<u>1</u>	<u>22</u>	<u>3</u>	<u>17</u>	<u>7</u>	<u>302</u>	<u>309</u>
<u>GRAND TOTALS</u>	16	256	12	219	145	1700	1731

Number of
Pending Permits

Comments

17	To be reviewed by Northwest Region
13	To be reviewed by Willamette Valley Region
8	To be reviewed by Southwest Region
10	To be reviewed by Central Region
14	To be reviewed by Eastern Region
25	To be reviewed by Program Operations Section
40	Awaiting Public Notice
<u>11</u>	Awaiting end of 30-day Public Notice Period
138	

MAR. 5
AA5323A (7/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MONTHLY ACTIVITY REPORT

DIRECT SOURCES
PERMITS ISSUED

Permit Number	Source Name	County Name	Appl. Rcvd.	Status	Date Achvd.	Type Appl.
10	0007 GLENBROOK NICKEL	DOUGLAS	06/02/89	PERMIT ISSUED	06/19/89	TRS
10	0097 BOHEMIA INC.	DOUGLAS	04/13/89	PERMIT ISSUED	06/19/89	RNW
15	0047 WESTPAC MOULDING OF ORE	JACKSON	05/25/89	PERMIT ISSUED	06/19/89	NCH
15	0048 MEDFORD CORPORATION	JACKSON	08/26/88	PERMIT ISSUED	06/06/89	MOD
15	0064 ROGUE AGGREGATES, INC.	JACKSON	04/03/89	PERMIT ISSUED	06/19/89	RNW
17	0030 STONE FOREST INDUSTRIES	JOSEPHINE	12/05/88	PERMIT ISSUED	06/19/89	RNW
21	0054 ALSFA VENEER, INC.	LINCOLN	05/19/89	PERMIT ISSUED	06/19/89	NCH
37	0059 HARNEY ROCK & PAVING	PORT.SOURCE	05/08/89	PERMIT ISSUED	06/19/89	RNW
37	0325 WILDISH STANDARD PAVING	PORT.SOURCE	04/28/89	PERMIT ISSUED	06/06/89	RNW

TOTAL NUMBER QUICK LOOK REPORT LINES 9

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

JUNE 1989
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

Indirect Sources

Washington	Andover Park, 420 Spaces File No. 34-8909	6/30/89	Final Permit Issued
Washington	Hunters Run, 560 Spaces File No. 34-8908	6/30/89	Final Permit Issued
Washington	Sterling Pointe- Phases 2 & 3 708 Spaces, File No. 34-8607	6/30/89	Final Permit Issued (Addendum No.1)

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Air Quality Division
(Reporting Unit)

June 1989
(Month and Year)

PERMIT TRANSFERS & NAME CHANGES

Permit Number	Company Name	Type of Change	Status of Permit
10-0007	Glenbrook Nickel Company	Transfer	Issued
10-0121	Hoover Treated Wood Products	Name Change ¹	Awaiting public notice
15-0047	Westpac Moulding of Oregon	Name Change	Issued
15-0064	Rogue Aggregates, Inc.	Transfer ¹	Issued
21-0054	Alsea Veneer, Inc.	Name Change	Issued
22-5196	White Plywood Co.	Transfer ¹	Awaiting public notice
34-2688	Oregon-Canadian Forest Products, Inc.	Transfer	Issued

¹In conjunction with permit renewal.

²In conjunction with permit modification.

MAR. 5TC
AD3481 (6/89)

DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project * /Site and Type of Same	* Date of * Action	* Action
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INDUSTRIAL WASTE SOURCES - 4

Lincoln	Georgia Pacific - Toledo Concrete Collection Sump with Submersible Pump and Holding Tank	5-11-89	Approved
Clackamas	American Sand & Gravel Inc. Wastewater Treatment Facility	5-11-89	Approved
Clackamas	Omark Industries Groundwater Monitoring and Recovery Wells and Treatment System	6-9-89	Approved
Washington	Tektronix, Inc. Groundwater Pump Back System & Air Stripping Tower and/or GAC Filtration System	6-5-89	Approved

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES - 7

Page 1 of 1

Tillamook	Tillamook Evergreen Gardens Pump Station and Force Main	7-7-89	Rejected w/ Comments to Engineer
Lincoln	Newport Iron Mountain Beach Sewers	6-19-89	Provisional Approval
Tillamook	NTSCA (Wheeler) Paradise Cove Service Conn	7-11-89	Provisional Approval
Columbia	Multnomah Channel Yacht Club Conventional Sand Filter On-Site System 1,000 gpd	6-12-89	Comments to County
Coos	Coos Bay, Plant # 1 Contract #3 Change Order #1	7-3-89	Approved
Washington	USA-Gaston Force Main Addenda 1, 2, & 3	7-12-89	Provisional Approval
Washington	USA-Durham Phase I Addendum No. 2	7-5-89	Approved

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project * /Site and Type of Same	* Date * Received	* Status
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INDUSTRIAL WASTE SOURCES - 10

Marion	Siltec Corporation Initial Liquid Effluent Treatment Facility	11-22-88	Additional Information requested. Application incomplete.
Coos	Weyerhaeuser Paper Co. Aerators, Earthen Dikes and Floating Dikes	12-23-88	Review Completion Project 7-31-89
Linn	Willamette Industries Replace Mill Effluent Line	5-18-89	Review Completion Projected 7-31-89
Clackamas	Marion L. Ruffing Manure Control Facility	5-19-89	Review Completion Projected 7-31-89
Yamhill	Taylor Lumber and Treating, Inc. Oil/Water Separator	5-26-89	Review Completion Projected 7-31-89
Klamath	Hollands Dairy Corporation Manure Control Facility	6-5-89	Review Completion Projected 7-31-89
Klamath	Klamath Dairy Products Manure Control facility	6-5-89	Review Completion Projected 7-31-89
Jackson	Cascade Wood Prod, Inc. Groundwater Monitoring and Recovery Wells	6-2-89	Review Completion Projected 7-31-89
Marion	Norpac Foods Spray Irrigation Gun and Piping System	5-23-89	Review Completion Projected 7-31-89
Tillamook	Richard Hestershaw Manure Control Facility	5-30-89	Review Completion Projected 7-31-89

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project * /Site and Type of Same	* Date * Received	* Status	* Reviewer
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MUNICIPAL WASTE SOURCES - 41

Page 1 of 5

Umatilla	Larry Greenwalt Shady Rest Mobile Home Court Bottomless Sand Filter	4-21-88	Review Completion Projected 7-31-89	JLV
Clatsop	Glenwood Mobile Park Modification to dual media filter from anoxic tower	10-4-88	Review Completion Projected 7-31-89	JLV
Curry	Brookings Wastewater Treatment Plant and Conveyance System Improvements	5-31-89	Review Completion Projected 7-31-89	KMV
Clackamas	Gladstone Marsh Property	2-1-90	Review Completion Projected 7-31-89	JLV
Umatilla	Ferndale School Dist. No. 1 On-Site System Addition	2-16-89	Review Completion Projected 7-31-89	JLV
Lane	Florence River's Edge	3-15-89	Review Completion Projected 7-31-89	JLV
Lincoln	Yachats Center Way	3-15-89	Review Completion Projected 7-31-89	JLV
Jefferson	United Methodist Church Sutt Lake Camp Sewerage System Reconstruction	6-14-89	Review Completion Projected 7-31-89	JLV
Marion	Jefferson Sewer Repairs	6-12-89	Completion by 7-31-89	DSM

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division

(Reporting Unit)

June 1989

(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer *
*	* /Site and Type of Same	* Received	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 2 of 5

Benton	Albany STP Improvements 90% Design Review	6-6-89	Completion by 7-31-89	DSM
Clatsop	Seaside Circle Creek Campground	3-28-89	Review Completion Projected 7-31-89	JLV
Union	Union Headworks Improvement	3-30-89	Review Completion Projected 7-31-89	JLV
Coos	Bandon Beach View Estates	4-12-89	Review Completion Projected 7-31-89	JLV
Crook	Prineville Algonquin Subdivision	4-24-89	Review Completion Projected 7-31-89	JLV
Lincoln	Taylor's Landing RV Park Recirculating Gravel Filter	4-26-89	Review Completion Projected 7-31-89	JLV
Linn	Harrisburg Sewer Rehabilitation	6-12-89	Review Completion Projected 7-31-89	GLS
Tillamook	Pacific Coast Recreation RV Park Collection/Treatment/Disposal Preliminary	5-17-89	Review Completion Projected 7-31-89	JLV
Linn	Lebanon Our Savior's Lutheran Church Project	5-23-89	Review Completion Projected 7-31-89	JLV

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division

June 1989

(Reporting Unit)

(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer
*	* /Site and Type of Same	* Received	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 3 of 5

Umatilla	Umatilla Utility Extensions	5-25-89	Review Completion Projected 7-31-89	JLV
Clackamas	Oak Lodge Sanitary District Robert McCallister	5-26-89	Review Completion Projected 7-31-89	JLV
Linn	Halsey Lagoon Expansion; Pump Station Upgrading	5-26-89	Review Completion Projected 7-31-89	JLV
Josephine	Grants Pass Riverwood Apts.	5-30-89	Review Completion Projected 7-31-89	JLV
Deschutes	Redmond (Al Holly) 23rd & Volcano	6-1-89	Review Completion Projected 7-31-89	JLV
Multnomah	Troutdale Marine Drive/ Sundial Road L.I.D.	6-7-89	Review Completion Projected 7-31-89	JLV
Deschutes	Sun River Business Park III	6-8-89	Review Completion Projected 7-31-89	JLV
Curry	Harbor Sanitary District S. Fork Tuttle Estates	6-9-89	Review Completion Projected 7-31-89	JLV
Washington	USA (Forest Grove) Solids Holding Facilities	6-2-89	Review Completion Projected 7-31-89	DSM
Jefferson	Madras Industrial Site Infrastructure	6-22-89	Review Completion Projected 7-31-89	JLV

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division

(Reporting Unit)

June 1989

(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer
*	* /Site and Type of Same	* Received	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 4 of 5

Douglas	Green Sanitary District 1st Addition Pine Knolls Estates	6-28-89	Review Completion Projected 7-31-89	DSM
Deschutes	Redmond School District Terrebonne School On-Site Additions (Prelim.)	6-29-89	Review Completion Projected 7-31-89	RCP/ JLV
Lincoln	Newport Douglas St./11th Street N.E.	6-29-89	Review Completion Projected 7-31-89	DSM
Douglas	RUSA Garden Valley Shopping Ctr.	6-30-89	Review Completion Projected 7-31-89	DSM

- - - - - PROJECTS BELOW ARE "ON-HOLD" - - - - -

Columbia	Scappoose Sewage Treatment Plant Expansion	3-11-87	On Hold, Financing Incomplete	DSM
Deschutes	Romaine Village Recirculating Gravel Filter (Revised)	4-27-87	On Hold For Surety Bond	Not Assigned
Marion	Breitenbush Hot Springs On-Site System	5-27-86	On Hold, Uncertain Financing	JLV
Curry	Whaleshead Beach Campground Gravel Recirculation Filter (Revised)	5-20-87	Holding for Field Inspection	JLV
Multnomah	Troutdale Frontage Road Sewage Pump Station Replacement	4-25-88	Bids Rejected, Being Redesigned	DSM
Deschutes	Bend Bend Millwork Sewer and Pump Station	1-30-89	Plan Rejected Awaiting Design Revisions	DSM

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DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY ACTIVITY REPORT

Water Quality Division

(Reporting Unit)

June 1989

(Month and Year)

PLAN ACTIONS PENDING

* County	* Name of Source/Project	* Date	* Status	* Reviewer
*	* /Site and Type of Same	* Received	*	*
*	*	*	*	*

MUNICIPAL WASTE SOURCES

Page 5 of 5

"ON-HOLD" (Cont'd)

Polk	Falls City Phase II Improvements	2-22-89	Awaiting NPDES Permit	JLV
Clackamas	Government Camp San. Dist. Mt. Hood Motel	11-21-88	Awaiting Easement for District	JLV
Yamhill	Sheridan Wastewater Lagoon Expansion	4-18-89	Awaiting Irrigation Sites Evaluation and NPDES Permit	JLV

IW\WC5140

Summary of Actions Taken on Water Permit Applications in JUN 89
07/10/89

Source Category & Permit Subtype	Number of Applications Filed						Number of Permits Issued						Applications Pending Permits Issuance (1)			Current Number of Active Permits				
	Month			Fiscal Year			Month			Fiscal Year			NPDES	WPCF	Gen	NPDES	WPCF	Gen		
	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen	NPDES	WPCF	Gen								
Domestic																				
NEW			5	1	27	3		1		2	14	4	25	3						
RW				1	1					2	1	2	1							
RWO	2	4		47	26		4			16	14	91	45							
MW				3			1			1		3								
MWO				5	8			1		5	12	3	1							
Total	2	9		57	62	3	5	2		26	41	103	72	3	224	204	29			
Industrial																				
NEW			1	4	9	11	51		1	6	3	11	63	9	10	11				
RW	1	1		3	1					2		3	1							
RWO	3			26	17		5	4		20	14	27	20							
MW										1		3								
MWO	1	1		7	7	6	2			8	7		2							
Total	5	3	4	45	36	57	7	5	6	34	32	63	42	33	11	156	133	468		
Agricultural																				
NEW					3			1			1	111		1						
RW																				
RWO					3						1		1	3						
MW																				
MWO					1						2									
Total					7			1			4	111	1	4		2	9	719		
Grand Total	7	12	4	102	105	60	12	8	6	60	77	174	146	109	14	382	346	1216		

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1) Does not include applications withdrawn by the applicant, applications where it was determined a permit was not needed, and applications where the permit was denied by DEQ.

It does include applications pending from previous months and those filed after 30-JUN-89 .

- NEW - New application
- RW - Renewal with effluent limit changes
- RWO - Renewal without effluent limit changes
- MW - Modification with increase in effluent limits
- MWO - Modification without increase in effluent limits

PERMIT CAT NUMBER	SUB- TYPE OR	NUMBER	FACILITY	FACILITY	NAME	CITY	COUNTY/REGION	DATE ISSUED	DATE EXPIRES
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General: Cooling Water

IND	100	GEN01	NEW	OR003280-8	104545/A	NORCREST CHINA COMPANY & MARKETING CENTER, INC. DBA	WHEAT PORTLAND	MULTNOMAH/NWR	28-JUN-89	31-DEC-90
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General: Suction Dredges

IND	700	GEN07	NEW		104539/A	KEPLER, MORRIS & HAGA, JAY		MOBILE SRC/ALL	19-JUN-89	31-JUL-91
IND	700	GEN07	NEW		104540/A	EAVERS, EDWARD & KRISTIANSEN, KEN		MOBILE SRC/ALL	19-JUN-89	31-JUL-91

General: Gravel Mining

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IND	1000	GEN10	NEW		104511/A	TRIPLE C REDI-MIX, INC.	BAKER	BAKER/ER	19-JUN-89	31-DEC-91
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General: Seasonal food procs. and wineries

IND	1400	GEN14	NEW		104527/A	REUTERS HILL WINERY, INC. DBA	FOREST GROVE	WASHINGTON/NWR	19-JUN-89	31-DEC-93
IND	1400	GEN14	NEW		104544/A	WILLAMETTE VALLEY VINEYARDS, INC.	TURNER	MARION/WVR	27-JUN-89	31-DEC-93

NPDES

IND	100580	NPDES	RWO	OR000055-8	72615/A	SMURFIT NEWSPRINT CORPORATION	NEWBERG	YAMHILL/WVR	02-JUN-89	31-MAY-94
DOM	100582	NPDES	RWO	OR002055-9	20306/A	COTTAGE GROVE, CITY OF	COTTAGE GROVE	LANE/WVR	13-JUN-89	31-MAY-94
DOM	100583	NPDES	RWO	OR002610-7	24095/A	DEPOE BAY, CITY OF	DEPOE BAY	LINCOLN/WVR	13-JUN-89	31-MAY-94
DOM	100587	NPDES	RWO	OR002066-4	88665/A	TILLAMOOK, CITY OF	TILLAMOOK	TILLAMOOK/NWR	15-JUN-89	30-JUN-94

ALL PERMITS ISSUED BETWEEN 01-JUN-89 AND 30-JUN-89
ORDERED BY PERMIT TYPE, ISSUE DATE, PERMIT NUMBER

IND	100585	NPDES	RWO	OR002743-0	70805/A	PORTLAND GENERAL ELECTRIC COMPANY	CLATSKANIE	COLUMBIA/NWR	16-JUN-89	31-MAY-94
DOM	100232	NPDES	MW	OR002336-1	61419/A	NORTH BEND, CITY OF	NORTH BEND	COOS/SWR	19-JUN-89	31-JAN-90
IND	100588	NPDES	RWO	OR000123-6	38192/A	HERCULES INCORPORATED	PORTLAND	MULTNOMAH/NWR	19-JUN-89	28-FEB-94
DOM	100590	NPDES	RWO	OR002729-4	17318/A	CLOVERDALE SANITARY DISTRICT	CLOVERDALE	TILLAMOOK/NWR	22-JUN-89	31-MAY-94
IND	100419	NPDES	MWO	OR000077-9	47430/B	KOPPERS INDUSTRIES, INC.	PORTLAND	MULTNOMAH/NWR	26-JUN-89	30-NOV-92
IND	100102	NPDES	MWO	OR000162-7	36535/C	GLENBROOK NICKEL COMPANY	RIDDLE	DOUGLAS/SWR	27-JUN-89	31-MAY-90
IND	100594	NPDES	RWO	OR002207-1	2464/A	AMERON, INC.	PORTLAND	MULTNOMAH/NWR	30-JUN-89	31-MAY-94
IND	100595	NPDES	RWO	OR000141-4	63004/A	OCHOCO LUMBER CO	PRINEVILLE	CROOK/CR	30-JUN-89	31-MAY-94

WPCF

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AGR	100581	WPCF	NEW		104386/A	CLATSOP ECONOMIC DEVELOPMENT ASTORIA COMMITTEE		CLATSOP/NWR	07-JUN-89	31-MAR-94
IND	100584	WPCF	NEW		103964/A	MARION COUNTY	WOODBURN	MARION/WVR	16-JUN-89	31-DEC-93
IND	100586	WPCF	RWO		34853/A	GRAY & COMPANY	DAYTON	YAMHILL/WVR	16-JUN-89	31-MAR-94
DOM	100350	WPCF	MWO		102743/A	DEL VIEW OWNERS ASSOCIATION, INC.	ROSEBURG	DOUGLAS/SWR	19-JUN-89	30-APR-92
DOM	100589	WPCF	NEW		104457/A	REACH APARTMENTS, INC.	PORTLAND	MULTNOMAH/NWR	22-JUN-89	30-JUN-94
IND	100591	WPCF	RWO		47266/A	KNUTSON LOG STORAGE, INC.	COOS BAY	COOS/SWR	27-JUN-89	31-DEC-93
IND	100592	WPCF	RWO		68205/B	DIAMOND WOOD PRODUCTS, INC.	COOS BAY	COOS/SWR	27-JUN-89	31-DEC-93
IND	100593	WPCF	RWO		47265/A	KNUTSON TOWBOAT COMPANY, INC.	COOS BAY	COOS/SWR	27-JUN-89	31-DEC-93

PERMIT TRANSFERS

Part of
Water Quality Division Monthly Activity Report
(Period June 1, 1989 through June 30, 1989)

<u>Permit No.</u>	<u>Previous Facility Name</u>	<u>Facility</u>	<u>New Facility Name</u>	<u>City</u>	<u>County</u>	<u>Date Transferred</u>
100419	Koppers Company, Inc.	47430	Koppers Industries, Inc.	Portland	Mult/NWR	6/26/89 (Ownership)
100102	Nickel Mountain Resources Co.	36535	Glenbrook Nickel Company	Riddle	Doug/SWR	6/27/89 (Ownership)

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	*
*	* /Site and Type of Same	* Action	*	*
*	*	*	*	*
Jackson	South Stage Landfill	6/15/89	Plan reviewed (workplan for Phase II hydrogeological assessment).	

Completed in Previous Months:

Municipal

Malheur	Brogan TS	2/16/89	Plans approved.	
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

PLAN ACTIONS PENDING - 49

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Municipal Waste Sources - 34

Baker	Haines	12/13/85	12/13/85	(R) Plan received	HQ
Deschutes	Knott Pit Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Fryrear Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Deschutes	Negus Landfill	8/20/86	8/20/86	(R) Plan received	HQ
Marion	Ogden Martin Brooks ERF	3/24/87	3/24/87	(N) As-built plans rec'd.	HQ
Douglas	Reedsport Lndfl.	5/7/87	5/7/87	(R) Plan received	HQ
Benton	Coffin Butte	6/1/87	6/1/87	(R) Plan received	HQ
Umatilla	City of Milton-Freewater	11/19/87	11/19/87	(N) Plan received (groundwater study)	HQ
Marion	Ogden-Martin (metal rec.)	11/20/87	11/20/87	(N) Plan received	HQ
Marion	Browns Island Landfill	11/20/87	11/20/87	(C) Plan received (groundwater study)	HQ
Harney	Burns-Hines	12/16/87	12/16/87	(R) Plan received	HQ
Marion	Woodburn TS	1/5/88	1/5/88	(N) Revised plan rec'd.	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Plans received	HQ
Umatilla	Pendleton Landfill	6/6/88	6/6/88	(R) Plans received	HQ
Coos	Les' Sanitary Service TS	6/30/88	6/30/88	(N) Plans received.	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
Marion	Marion Recycling Center, Inc.	7/20/88	7/20/88	(N) Plans received	HQ
Douglas	Lemolo Transfer	9/1/88	9/1/88	(M) Plans received	HQ
Lane	Franklin Landfill	9/29/88	9/29/88	(R) Groundwater report received	HQ
Umatilla	Athena Landfill	11/15/88	11/15/88	(M) Plans received	
Jackson	Ashland Landfill	12/1/88	12/1/88	(N) Plans received	HQ
Lake	Lake County Lndfl.	12/5/88	12/5/88	(C) Plans received	HQ
Deschutes	Alfalfa Landfill	12/19/88	12/19/88	(C) Plans received	HQ
Morrow	Heppner Landfill	12/20/88	12/20/88	(N) Plans received	HQ
Multnomah	St. Johns Landfill Groundwater study	3/24/88	3/24/88	(C) Final GW study plans received	HQ
Marion	Woodburn Ashfill	1/3/89	1/3/89	() As-built plans rec'd.	HQ
Gilliam	Ore. Wste. Sys. (O.W.S.) Landfill	2/14/89	4/27/89	(N) Add'l plan information received	HQ
Lincoln	Agate Beach Lndfl.	2/27/89	2/27/89	() Leachate plan rec'd.	HQ
Gilliam	S. Gilliam Co. Landfill	3/1/89	3/1/89	(C) Plan received	HQ
Wallowa	Ant Flat Landfill	3/13/89	3/13/89	(N) Plan received	HQ
Klamath	Klamath Falls	3/27/89	3/27/89	(R) Geotechnical study rec'd	HQ
Morrow	Turner Landfill Landfill	3/30/89	3/30/89	(C) Closure plan received	HQ
Yamhill	Riverbend Landfill	5/1/89	5/1/89	(A) Plans received (landfill improvements).	HQ
Marion	N. Marion County Disposal Facility (aka/Woodburn Landfill) (landfill contour modification)	6/13/89	6/13/89	(A) Plans received	HQ

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Marion	N. Marion County Disposal Facility (aka/Woodburn Landfill) (1989 backup landfill)	6/29/89	6/29/89	(N) Engineering plans received	HQ
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Demolition Waste Sources - 2

Washington	Hillsboro Landfill	1/29/88	1/29/88	(N) Expansion plans received	
Washington	Lakeside Reclamation Landfill	3/23/89	3/23/89	(C) Hydro report received	HQ

Industrial Waste Sources - 11

Coos	Rogge Lumber	7/28/86	6/18/87	(C) Additional info. submitted to revise previous application	HQ
Douglas	Louisiana-Pacific Round Prarie	9/30/87	9/30/87	(R) Operational plan	HQ
Clatsop	Nygaard Logging	11/17/87	11/17/87	(N) Plan received	HQ
Columbia	Boise Cascade St. Helens	4/6/88	4/6/88	(N) As built plans received.	HQ
Douglas	Sun Studs	6/20/88	6/20/88	(R) Plans received	HQ
Douglas	Sun Studs	7/1/88	7/1/88	(R) Operational/groundwater plans received	HQ
Douglas	IP, Gardiner	8/16/88	8/16/88	(N) Plans received	HQ
Yamhill	Boise Cascade (Willamina)	9/1/88	3/14/89	(N) Plans reviewed/to Region for action	RO
Grant	Blue Mountain Forest Products	9/7/88	9/7/88	(N) Plans received	HQ
Marion	OWTD - Silverton Forest Products	12/19/88	12/19/88	(C) GW study received	HQ
Douglas	Glide Lumber Products Landfill	6/12/88	6/12/89	Hydrogeologic study report received	

* County *	* Name of Facility *	* Date Plans Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	11/21/86	12/26/86	(N) Add'l. info. rec'd.	HQ
Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Plan received	HQ

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

SUMMARY OF SOLID WASTE PERMIT ACTIONS

	Permit Actions Received		Permit Actions Completed		Permit Actions Pending	Sites Under Permits	Sites Reqr'g Permits
	Month	FY	Month	FY			
<u>General Refuse</u>							
New	1	6	1	6	4		
Closures	-	4	-	5	3		
Renewals	1	3	1	4	12		
Modifications	-	18	-	18	1		
Total	2	31	2	33	20	180	180
<u>Demolition</u>							
New	-	1	-	1	-		
Closures	-	-	-	-	-		
Renewals	-	-	-	-	1		
Modifications	-	2	-	2	1		
Total	0	3	0	3	2	11	11
<u>Industrial</u>							
New	4	9	3	9	6		
Closures	-	-	-	-	1		
Renewals	-	2	-	9	4		
Modifications	-	9	-	8	1		
Total	4	20	3	26	12	107	107
<u>Sludge Disposal</u>							
New	-	1	-	1	1		
Closures	-	-	-	-	1		
Renewals	-	-	-	-	-		
Modifications	-	1	-	1	-		
Total	0	2	0	2	2	18	18
Total Solid Waste	6	56	5	64	36	316	316

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

PERMIT ACTIONS COMPLETED

* County	* Name of Source/Project	* Date of	* Action	* Action	* Action
*	*/Site and Type of Same	* Action	*	*	*
*	*	*	*	*	*

Municipal

Marion	Woodburn Landfill	(R) 6/23/89	Permit issued.
Lake	Dept. of Fish & Wildlife - Summer Lake (septic sludge)	(N) 6/14/89	Letter authorization.

Industrial

Curry	Tamco Facility (closure)	(N) 6/13/89	Letter authorization.
Coos	Allegany Facility (closure)	(N) 6/13/89	Letter authorization.
Morrow	Maine Excavating Co. (log deck waste) (May report incorrectly included this action)	(N) 6/28/89	Letter authorization.

Completions in Previous Months

Municipal

Malheur	Brogan TS	(N) 3/27/89	Permit issued.
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DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

PERMIT ACTIONS PENDING - 36

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Municipal Waste Sources - 20

Clackamas	Rossmans	3/14/84	2/11/87	(C) Applicant review (second draft)	HQ/RO
Baker	Haines	1/30/85	6/20/85	(R) Applicant review	HQ
Curry	Wridge Creek	2/19/86	9/2/86	(R) Draft received	HQ
Umatilla	Rahn's (Athena)	5/16/86	5/16/86	(R) Application filed	RO
Coos	Bandon Landfill	1/20/87	1/7/88	(R) Draft received	HQ
Deschutes	Negus Landfill	2/4/87	11/16/87	(R) Applicant review	HQ
Douglas	Reedsport Lndfl.	5/7/87	1/11/88	(R) Draft received	HQ
Lane	Florence Landfill	9/21/87	1/12/88	(R) Draft received	HQ
Douglas	Roseburg Landfill	10/21/87	12/21/87	(R) Draft received	
Curry	Port Orford Lndfl.	12/14/87	8/18/88	(R) Applicant review	HQ
Multnomah	Riedel Composting	5/5/88	5/5/88	(N) Application received	RO/HQ
Coos	Les' Sanitary Service TS	6/30/88	8/19/88	(N) Draft received	HQ
Tillamook	Tillamook Landfill	8/16/88	8/16/88	(N) Application received	RO
Marion	Ogden Martin	10/11/88	3/3/89	(R) Draft to applicant	HQ
Gilliam	Arlington Landfill Closure	11/14/88	11/14/88	(C) Closure application	HQ
Deschutes	Alfalfa Landfill Closure	12/19/88	12/19/88	(C) Application received	RO

SB4968
MAR.7S (5/79)

(A) = Amendment; (C) = Closure permit;
(N) = New source; (R) = Renewal

Page 1

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Union	North Powder	12/20/88	12/20/88	(R) Application received	HQ
Clackamas	Canby Disposal Co.	4/26/89	4/26/89	(N) Application received (transfer & recycling)	HQ
Yamhill	Newberg Transfer & Recycling	5/22/89	5/22/89	(A) Application received (tire storage increase)	HQ
Benton	Coffin Butte Lndfl.	6/7/89	6/7/89	(R) Application received	HQ

Demolition Waste Sources - 2

Coos	Bracelin/Yeager (Joe Ney)	3/28/86	8/11/88	(R) Public hearing held	HQ
Washington	Hillsboro Lndfl.	1/29/88	1/29/88	(A) Application received	HQ

Industrial Waste Sources - 12

Wallowa	Boise Cascade Joseph Mill	10/3/83	5/26/87	(R) Applicant comments received	HQ
Curry	South Coast Lbr.	7/18/86	7/18/86	(R) Application filed	RO
Baker	Ash Grove Cement West, Inc.	4/1/87	4/1/87	(N) Application received	RO
Klamath	Modoc Lumber Landfill	5/4/87	5/4/87	(R) Application filed	RO
Clatsop	Nygaard Logging	11/17/87	3/3/88	(N) Draft received	HQ
Wallowa	Sequoia Forest Ind.	11/25/87	11/25/87	(N) Application filed	RO
Douglas	Hayward Disp. Site	6/7/88	8/18/88	(R) Applicant review	HQ
Yamhill	Boise-Cascade (Willamina)	9/1/88	9/1/88	(N) Application received	RO
Klamath	Modoc Lumber Lndfl.	1/6/89	1/6/89	(N) Application received	HQ
Clatsop	James River Wauna Mills	4/28/88	3/3/89	(C) Draft closure permit	HQ

* County *	* Name of Facility *	* Date Appl. Rec'd. *	* Date of Last Action *	* Type of Action and Status *	* Location *
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Clatsop	James River Wauna Mills	5/30/89	5/30/89	(A) Application received	HQ
Clackamas	Calfall Bros. Forest Products	6/28/89	6/28/89	(N) Application for letter authorization	HQ

Sewage Sludge Sources - 2

Coos	Beaver Hill Lagoons	5/30/86	3/10/87	(N) Add'l. info. received (addition of waste oil facility)	HQ
Coos	Hempstead Sludge Lagoons	9/14/87	9/14/87	(C) Application received	HQ/RO

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Hazardous and Solid Waste Division
(Reporting Unit)

June 1989
(Month and Year)

SUMMARY OF HAZARDOUS WASTE PROGRAM ACTIVITIES

PERMITS

	ISSUED		PLANNED
	No. This Month	No. Fiscal Year to Date (FYTD)	No. in FY 89
Treatment	0	0	0
Storage	0	0	1
Disposal	0	0	0
Post-Closure	0	0	3

INSPECTIONS

	COMPLETED		PLANNED
	No. This Month	No. FYTD	No. in FY 89
Generator	4	45	14 ¹
TSD	1	13	16 ¹

CLOSURES

	PUBLIC NOTICES			CERTIFICATIONS		ACCEPTED
	No. This Month	FYTD No.	Planned in FY 89	No. This Month	No. FYTD	No. Planned in FY 89
Treatment	0	0	0	0	0	0
Storage	0	1	2	0	0	4
Disposal	0	0	1	0	1	1

¹ SEA commitment only.

SB8619 (6/8/89)

CHEM-SECURITY SYSTEMS, INC.
Arlington, Oregon

1989

HAZARDOUS WASTE ORIGINATION SOURCES

MONTHLY QUANTITY OF WASTE DISPOSED (TONS)¹

<u>Waste Source</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>YTD</u>
Oregon	2,662	530	1,695	2,500	1,386								8,773
Washington	14,233	7,106	5,974	8,909	7,865								44,087
Alaska	1,148	1,889	1,826	550	36								5,449
Idaho	14	29	32	19	160								254
California	-	-	-	21	-								21
CSSI ²	752	267	799	1,799	1,507								5,124
Other ³	-	18	-	68	-								86
TOTALS	18,809	9,839	10,326	13,866	10,954								63,794

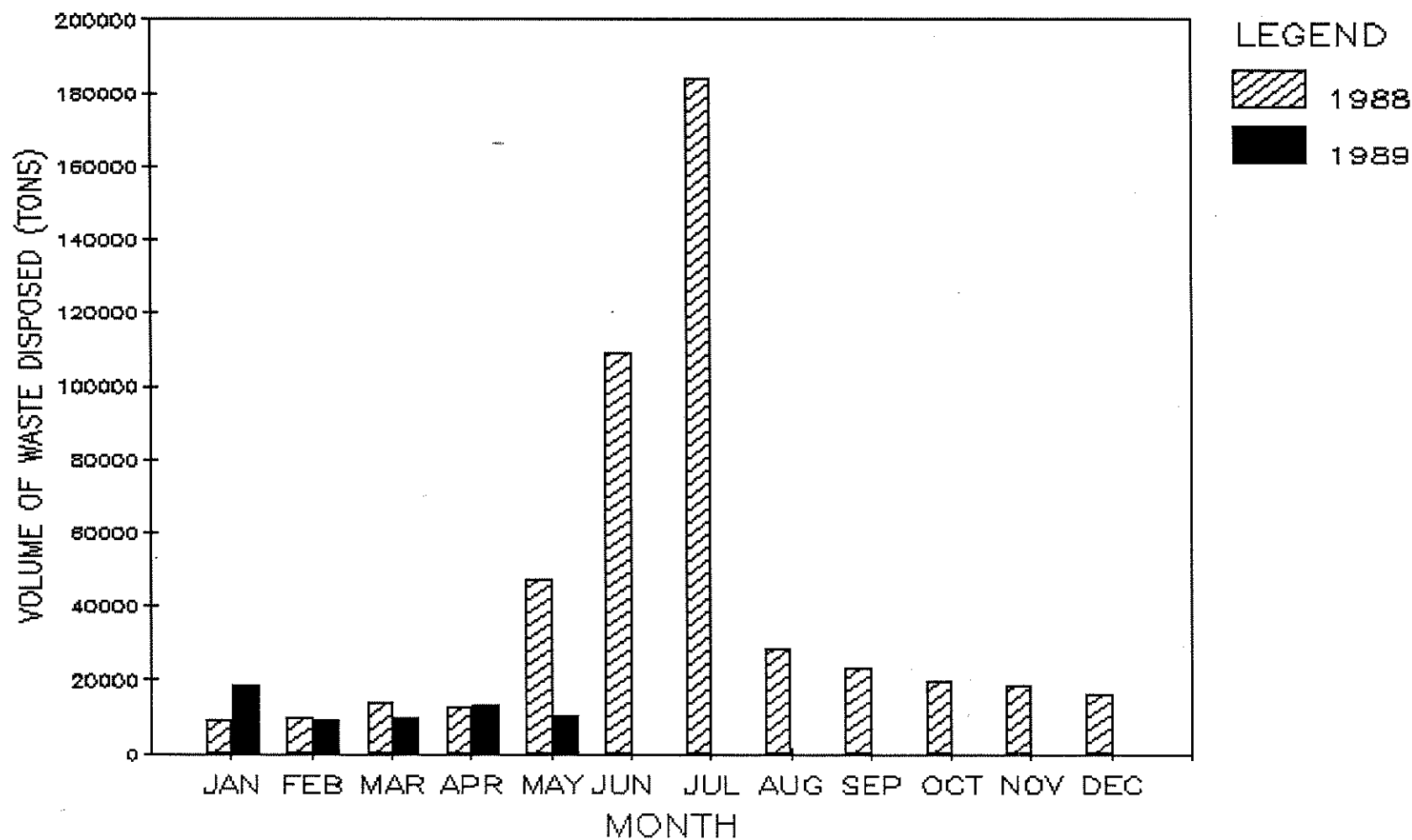
Footnotes

- 1 Quantity of waste (both RCRA and non-RCRA) received at the facility.
- 2 Waste generated on-site by CSSI.
- 3 Other waste origination sources include Montana, British Columbia.

HAZARDOUS WASTE DISPOSAL CHEM-SECURITY SYSTEMS, INC.

Arlington, Oregon

1988 - 1989 Waste Disposal Volume Comparison



DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	June, 1989 (Month and Year)
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SUMMARY OF NOISE CONTROL ACTIONS

Source Category	New Actions Initiated		Final Actions Completed		Actions Pending	
	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>FY</u>	<u>Mo</u>	<u>Last Mo</u>
Industrial/ Commercial	8	110	14	153	146	152
Airports			1	11	1	1

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

Noise Control Program (Reporting Unit)	June, 1989 (Month and Year)
---	--------------------------------

FINAL NOISE CONTROL ACTIONS

County	* Name of Source and Location	* Date	* Action
Clackamas	Huwalt's Truck Repair, Portland	6/89	Referred to Clackamas Co.
Clackamas	Reed's Bargain Barn, Portland	6/89	No violation
Multnomah	Albertson's Store, 5415 SW Bvrtn-Hillsdale Hwy, Portland	6/89	In compliance
Multnomah	Alpenrose Dairy, Portland	6/89	In compliance
Multnomah	Miller Transport, Portland	6/89	Referred to the City of Portland
Multnomah	Phil's Auto Body, Portland	6/89	Referred to the City of Portland
Multnomah	Town Square at Mountain Park, Lamb's Mt. Park Thriftway, Portland	6/89	In compliance
Multnomah	Winkler's Scrap Metal, Portland	6/89	Referred to the City of Portland
Washington	Harco Manufacturing, Portland	6/89	In compliance
Washington	North Plains Gun Club, North Plains	6/89	No violation
Washington	St. Vincent's Hospital, Portland	6/89	In compliance
Washington	Willamette Industries, Tualatin	6/89	In compliance

DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY ACTIVITY REPORT

<u>Noise Control Program</u>	<u>June, 1989</u>
(Reporting Unit)	(Month and Year)

FINAL NOISE CONTROL ACTIONS

<u>County</u>	<u>* Name of Source and Location</u>	<u>* Date</u>	<u>* Action</u>
Lincoln	Lincoln City Police Firing Range, Lincoln City	6/89	In compliance
Lane	A & A Auto Wreckers, Inc., Springfield	6/89	In compliance
 <u>Airport</u>			
Columbia	Rainier Heliport, near Rainier	6/89	Boundary approved

CIVIL PENALTY ASSESSMENTS

DEPARTMENT OF ENVIRONMENTAL QUALITY
1989

CIVIL PENALTIES ASSESSED DURING MONTH OF JUNE, 1989:

<u>Name and Location of Violation</u>	<u>Case No. & Type of Violation</u>	<u>Date Issued</u>	<u>Amount</u>	<u>Status</u>
Apartment Exchange, Inc. Portland, Oregon	AQAB-NWR-89-06 Multiple violations of the asbestos work practices rules.	6/1/89	\$4,200	Contested on 6/19/89.
Albany Cabinets & Building Supply, Inc. Albany, Oregon	NP-WVR-89-97 Excessive noise from an industrial source.	6/5/89	\$500	Company did not respond to the notice, a default order and judgment was issued on 7/10/89.
Technical Images, Inc. Newberg, Oregon	HW-WVR-89-86 Multiple violations of the hazardous waste generator rules.	6/7/89	\$16,000	Contested on 6/22/89.
Bob's Sanitary Service, Inc. West Linn, Oregon	OS-NWR-89-77 Installed an on-site sewage system without a permit.	6/8/89	\$500	Company did not respond to the notice. A default order and judgment was issued on 7/10/89.
Gary W. Standish, dba/ G & R Auto Wreckers Salem, Oregon	AQOB-SWR-89-99 Open burned demolition waste.	6/9/89	\$1,400	Company did not respond to the notice. A default order and judgment was issued on 7/10/89.
Bend Golf and Country Club Bend, Oregon	AQOB-CR-89-93 Open burned commercial waste (brush).	6/12/89	\$900	Paid 6/26/89.
GFI, Inc., dba/ Caveman Lumber	AQOB-SWR-89-94 Open burned industrial (wood) waste.	6/12/89	\$600	Contested on 6/26/89.
Safety-Kleen Corp. (Clackamas Facility) Clackamas, Oregon	HW-NWR-89-46 Multiple violations of the hazardous waste storage facility rules.	6/13/89	\$7,200	Contested on 6/26/89.

<u>Name and Location of Violation</u>	<u>Case No. & Type of Violation</u>	<u>Date Issued</u>	<u>Amount</u>	<u>Status</u>
Astoria Plywood Corporation Astoria, Oregon	AQ-NWR-89-92 Violation of Air Contaminant Discharge Permit.	6/19/89	\$3,800	Paid on 7/5/89.
Arrow Transportation Company of Delaware Portland, Oregon	AQ-NWR-89-106 Unloaded gasoline from a tanker-truck to an underground storage tank without using vapor recovery equipment.	6/23/89	\$500	Paid on 7/7/89.
Columbia Helicopters, Inc. Aurora, Oregon	HW-WVR-89-104 Multiple violations of the hazardous waste generator rules.	6/29/89	\$4,700	Awaiting response to notice.

GB8721

June, 1989
DEQ/EQC Contested Case Log

<u>ACTIONS</u>	<u>LAST MONTH</u>	<u>PRESENT</u>
Preliminary Issues	3	2
Discovery	0	0
Settlement Action	12	12
Hearing to be scheduled	1	1
Department reviewing penalty	0	0
Hearing scheduled	2	6
HO's Decision Due	2	1
Briefing	0	0
Inactive	<u>2</u>	<u>1</u>
SUBTOTAL of cases before hearings officer	22	23
HO's Decision Out/Option for EQC Appeal	2	0
Appealed to EQC	0	0
EQC Appeal Complete/Option for Court Review	0	0
Court Review Option Taken	0	0
Case Closed	<u>8</u>	<u>5</u>
TOTAL Cases	32	28

15-AQ-NWR-87-178 15th Hearing Section case in 1987 involving Air Quality Division violation in Northwest Region jurisdiction in 1987; 178th enforcement action in the Department in 1987.

§ Civil Penalty Amount

ACDP Air Contaminant Discharge Permit

AG1 Attorney General 1

AQ Air Quality Division

AQOB Air Quality, Open Burning

CR Central Region

DEC Date Date of either a proposed decision of hearings officer or a decision by Commission

ER Eastern Region

FB Field Burning

HW Hazardous Waste

HSW Hazardous and Solid Waste Division

Hrng Rfrl Date when Enforcement Section requests Hearing Section schedule a hearing

Hrngrs Hearings Section

NP Noise Pollution

NPDES National Pollutant Discharge Elimination System wastewater discharge permit

NWR Northwest Region

OSS On-Site Sewage Section

P Litigation over permit or its conditions

Prtys All parties involved

Rem Order Remedial Action Order

Resp Code Source of next expected activity in case

SS Subsurface Sewage (now OSS)

SW Solid Waste Division

SWR Southwest Region

T Litigation over tax credit matter

Transcr Transcript being made of case

Underlining New status or new case since last month's contested case log

WQ Water Quality Division

WVR Willamette Valley Region

CONTES.B

June, 1989
DEQ/EQC Contested Case Log

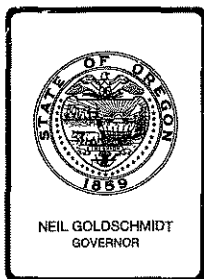
Pet/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
DANT & RUSSELL, INC.	05/31/85	05/31/85	03/21/86	Prtys	15-HW-NWR-85-60 Hazardous waste disposal Civil Penalty of \$2,500	Settlement agreement delayed pending resolution of federal court proceedings.
BRAZIER FOREST PRODUCTS	11/22/85	12/12/85	02/10/86	DEQ	23-HSW-85-60 Declaratory Ruling	<u>Hearings officer's declaratory ruling issued 5/16/86. Tentative settlement reached in appeal to EOC. Department of Justice to prepare order for EOC consideration.</u>
CSSI	3/31/88	4/19/88		Prtys	Permit 089-452-353	Hearing in process.
[GIFY-OF-SALEM	9/26/88		4/18/89	Prtys	Department-Order}	Order of dismissal issued 5/19/89. <u>No appeal. Case closed.</u>
ARIE JONGANEEL dba A.J. Dairy	10/3/88		1/20/89	Prtys	WQ-WVR-88-73A \$2,500 Civil Penalty and -73B, Department Order	Settlement action.
Co [HARBOR OIL			6/16/89	Prtys	Permit-1300-J} [Permit-Revocation}	Stipulated order signed by parties. <u>Case closed.</u>
[Aart & Sheri Falk	1/5/89	1/6/89	2/17/89	Prtys	AQ-FB-88-115}	<u>DEQ withdrew assessment. Case closed.</u>
Rahenkamp Wrecking, Inc.	1/18/89	1/23/89	<u>9/12/89</u>	Prtys	AQ-AB-SWR-88-76 \$3,500 Civil Penalty	<u>Hearing scheduled.</u>
Larry L. Krenik	2/6/89	2/8/89	5/26/89	Hrgs	SW-WT-89-20 Order of Abatement	Krenik agreed to dismissal of appeal and issuance of Order of Abatement. <u>Hearings officer to issue order.</u>

June, 1989
DEQ/EQC Contested Case Log

Pet/Resp Name	Hrng Rqst	Hrng Rfrl	Hrng Date	Resp Code	Case Type & No.	Case Status
Safety-Kleen Corp.	2/13/89	2/13/89	6/6/89		HW-WVR-89-02 Compliance Order \$11,800 in civil penalties.	Settlement to be submitted to EQC for approval.
Ron Graham	2/2/89	2/21/89		Resp	Challenge of agency data collection activity.	Preliminary issues.
Chem-Security Systems, Inc.	3/7/89	3/8/89		Prtys	HW-ER-89-18 Compliance Order and \$19,400 in civil penalties.	Settlement discussions.
Richard G. & and Anne M. Schultz	3/16/89	3/27/89		Prtys	SW-WT-89-41	<u>Partial settlement effected. Remaining issues in abeyance for 90 days.</u>
David White	3/3/89	4/6/89	5/22/89	Prtys	NW-WT} [Permit-denial]	Hearings officer affirmed permit denial 6/1/89. <u>No appeal to EOC. Case closed.</u>
Phillip Turnbull	3/13/89	3/16/89	5/19/89	Prtys	SW-SWR-89-03 and penalty \$3,750	Settlement negotiations.
George N. Lammi			6/19/89		WQ-NWR-89-08 \$11,100 civil penalty	<u>Settlement to be submitted to EOC for approval.</u>
Smurfit Newsprint	4/11/89	4/11/89		Prtys	AQ-NWR-89-60 \$16,800 civil penalty	Settlement negotiations.
Holland Dairy, Inc.	4/17/89	4/17/89	<u>7/24/89</u>		WQ-CR-89-51 \$8,000 civil penalty	<u>Hearing rescheduled.</u>
Port of Astoria	4/12/89	4/12/89	6/15/89	Prtys	AQ-OB-NWR-89-07 \$3,000 penalty	<u>Settlement to be submitted to EOC for approval.</u>

June, 1989
DEQ/EQC Contested Case Log

<u>Pet/Resp Name</u>	<u>Hrng Rqst</u>	<u>Hrng Rfrl</u>	<u>Hrng Date</u>	<u>Resp Code</u>	<u>Case Type & No.</u>	<u>Case Status</u>
Dennis Bevins	4/12/89	4/12/89	<u>8/17/89</u>		AQ-OB-WVR-89-49 \$320 civil penalty	<u>Hearing scheduled.</u>
Verlin Blanchfield	4/26/89	4/26/89	<u>8/16/89</u>	<u>Prtys</u>	OS-NWR-89-33 \$780 civil penalty	<u>Hearing rescheduled.</u>
Marvin's Gardens	5/8/89	5/8/89	7/6/89	<u>Prtys</u>	AQ-OB-CR-89-10	<u>Settlement negotiations.</u>
Kohansby	5/25/89	5/26/89		Prtys	AQ-OB-SWR-89-61 \$600 civil penalty	Preliminary issues.
CSSI II	6/8/89	6/8/89		Prtys	HW-ER-89-43 ORD 089 452 353 Compliance Order and -\$4,900-civil penalty	<u>DEQ has developed settlement offer in response to CSSI proposal.</u>
<u>Technical Images, Inc.</u>	<u>6/19/89</u>	<u>6/23/89</u>			<u>HW-WVR-89-86</u>	<u>Respondent requested informal discussions.</u>
<u>Apartment Exchange</u>			<u>8/18/89</u>	<u>Prtys</u>	<u>AQAB-NWR-89-06</u>	<u>Hearing Scheduled.</u>
<u>GPI (Caveman Lumber)</u>	<u>6/20/89</u>			<u>Hrgs</u>	<u>AQOB-SWR-89-94</u>	<u>To be Sscheduled.</u>
<u>Safety-Kleen II</u>	<u>6/26/89</u>				<u>HW-NWR-89-46</u>	<u>Settlement Action.</u>



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission

From: Director *Myra Taylor*

Subject: Agenda Item C, July 21, 1989, EQC Meeting

Proposed Civil Penalty Settlement Agreements

Background

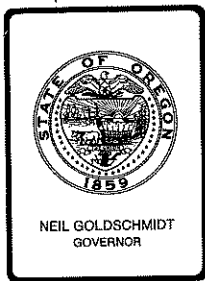
Oregon Revised Statute 468.130(3) provides that any civil penalty may be remitted or mitigated upon such terms and conditions as the Environmental Quality Commission considers proper and consistent with the public health and safety. The statute further provides that the Commission may by rule delegate to the Department, upon such conditions as deemed necessary, all or part of the authority to remit or mitigate civil penalties. Oregon Administrative Rule 340-12-047 authorizes the Director of the Department to seek to compromise or settle any unpaid civil penalty which the Director deems appropriate. Any compromise or settlement executed by the Director shall not be final until approved by the Commission.

The following proposed settlement agreements are attached for the Commission's consideration and approval:

Case Number WQ-NWR-89-08, George N. Lammi, dba/Lammi Sand and Rock Products

Fred Hansen

GB8231M



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

MEMORANDUM

TO: Environmental Quality Commission **DATE:** July 21, 1989
FROM: Director
SUBJECT: Request for Approval of Settlement Agreement in Case No. WQ-NWR-89-08, George N. Lammi, dba/ Lammi Sand and Rock Products

Respondent, George N. Lammi, owns and operates a rock crushing operation under the assumed business name of Lammi Sand and Rock Products outside of Clatskanie, Oregon. The facility uses water from OK Creek to supply water to the rock crushing operation. In April of 1987, the facility was issued National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. 100311. The permit contained a compliance schedule and a requirement that Respondent not discharge any wastewater to OK Creek on or after November 1, 1988.

On March 21, 1989, the Department assessed an \$11,100 civil penalty against Respondent for two violations of his NPDES permit and for exceeding the water quality turbidity standard. On April 10, 1989, Respondent filed a request for a hearing with the Commission's hearings officer and a request for an informal settlement meeting.

On April 19, 1989, the Department met with Respondent and representatives from Oregon Department of Water Resources and Columbia County. Respondent did not dispute the Department's allegations or offer any additional facts to explain the violations. Respondent did, however, express a willingness to work with the Department and expend the money necessary to bring Respondent's facility into compliance. Respondent stated he would accept a detailed compliance schedule in exchange for a suspension of a portion of the penalty.

On April 28, 1989, Northwest Region staff met with Respondent at his facility to discuss the requirements of the compliance schedule. Respondent agreed to the requirements as outlined by the Region.

On June 16, 1989, the Department made the following settlement offer to Respondent: Respondent agree to the compliance schedule as discussed with the Region and the Department would suspend \$5,550 of the penalty provided the Respondent have no violations of water quality standards, his permit or the Order for a period of one year.

Respondent has accepted the offer and signed the attached Stipulation and Final Order. I believe Respondent's willingness to finally resolve his pollution control problems justifies the suspension of \$5,550 of the penalty and that such a suspension is protective of public health and the

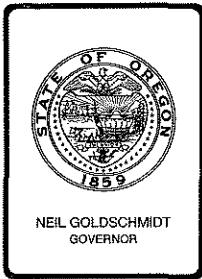
environment. Should Respondent have any further violations in the next year, the suspended portion of the penalty will be reinstated.

The civil penalty assessment action, settlement correspondence, and the proposed Stipulation and Final Order are attached for your review and consideration.

I believe the settlement is satisfactory and recommend its approval. If you agree, please sign and date Stipulation and Final Order No. WQ-NWR-89-08.

Fred Hansen

Attachments
Yone C. McNally
229-5152
June 28, 1989



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

REGIONAL OPERATIONS DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUN 28 1989

George N. Lammi
dba/Lammi Sand and Rock Products
Route 2, Box 2424
Clatskanie, OR 97016

Re: Settlement Offer
Case No. WQ-NWR-89-08

Dear Mr. Lammi;

On April 19, 1989, you met with representatives of the Department to discuss the civil penalty assessed against you in March, 1989. At that meeting, you expressed your desire to take the steps to bring your rock crushing operation into compliance under your NPDES permit. You also explained that you had shut down your operation after receiving the penalty in an effort to avoid further violations and that you had begun steps to assure your facility would be in compliance once you started operating again. You expressed your willingness to enter into an agreement with the Department in order to assure compliance at your facility and settle the civil penalty.

On April 28, 1989, Richard Wixom and Bruce Henderson of the Department's Northwest Region office met with you at your facility in Clatskanie to discuss a compliance schedule. The compliance schedule contained the actions necessary to assure your facility achieve and maintain compliance. It is my understanding that you agreed to the compliance schedule at that time.

Because of your willingness to improve your facility so that it can achieve compliance, I am making the following settlement offer. You agree to pay \$5,500, waive a contested case hearing and fully comply with the compliance schedule contained in the enclosed Stipulation and Final Order. The Department will suspend the remaining \$5,500 of your civil penalty. You should be aware, however, that any further violations could result in the assessment of additional civil penalties in addition to the immediate reinstatement of the suspended portion of the penalty.

George N. Lammi
dba/Lammi Sand and Rock Products
Page 2

If this offer is acceptable to you, please sign and return the enclosed Stipulation and Final Order by June 26, 1989. Please be informed that this agreement is subject to the final approval of the Environmental Quality Commission and will be presented to the Commission at its July 14, 1989 meeting. I hope you find this acceptable. If you have any questions please contact Ms. Yone C. McNally through our toll-free call back number, 1-800-452-4011.

Sincerely,



Fred Hansen,
Director

cc: Kent Ashbaker, Water Quality, DEQ
Ed Woods, Northwest Region, DEQ
Oregon Department of Fish and Wildlife
Oregon Department of Water Resources
U. S. Environmental Protection Agency



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: D
Division: Management Services
Section: Administration

SUBJECT:

Pollution Control Tax Credits.

PURPOSE:

Approve and Deny Pollution Control Tax Credit Applications.
Grant Extension of Application Filing Timeframe.
Approve Transfer of Tax Credits.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment
 - Rulemaking Statements Attachment
 - Fiscal and Economic Impact Statement Attachment
 - Public Notice Attachment
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment
- Approve Department Recommendation
 - Variance Request Attachment
 - Exception to Rule Attachment
 - Informational Report Attachment
 - Other: (specify) Attachment A

Tax Credit Applications, Filing Extension Request,
Tax Credit Transfer Request.

Meeting Date:
Agenda Item:
Page 2

DESCRIPTION OF REQUESTED ACTION:

1. Issue Tax Credit Certificate for Pollution Control Facilities:

T-2113	Oregon Steel Mills	Secondary Containment System
T-2167	White Consolidated Industries	Two Acoustical Fan Enclosures
T-2210	Precision Castparts Corp.	Chemical Containment Facility
T-2459	Blue Sky Farm, Inc.	Rears Propane Flamer
T-2609	Blue Sky Farm, Inc.	John Deere 455 Cover Crop Disk
T-2803	Leroy & Lowell Kropf	Rears Propane Flamer
T-2804	Leroy & Lowell Kropf	John Deere 4955 Tractor & 2810 Plow
T-2805	Leroy & Lowell Kropf	John Deere Flail Chopper

2. Grant Extension of Application Filing:

T-2215	Entek Manufacturing, Inc.	Carbon bed absorption system to collect trichloroethylene vapors
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3. Approve Transfer of Tax Credit Certificates:

T-1493	ESCO	1980 Fuller Dust Collector
T-1526	ESCO	1982 V Process Dust Collector
T-1528	ESCO	1982 Slinger Bay
T-1529	ESCO	1982 Draft Hoods Baghouse
T-1530	ESCO	1982 Rotoblast Baghouse
T-1777	ESCO	1984 Tech Center Dust Collector
T-1783	ESCO	1985 Plant 2 Dust Collector
T-1784	ESCO	1985 Plant 3 Dust Collector

4. Deny Tax Credit Certificate for Pollution Control facility:

T-2191	Forrest Paint	Groundwater Monitoring Wells
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AUTHORITY/NEED FOR ACTION:

<input checked="" type="checkbox"/>	Required by Statute: <u>ORS.150-468.190</u>	Attachment <u> </u>
	Enactment Date: <u> </u>	
<input type="checkbox"/>	Statutory Authority: <u> </u>	Attachment <u> </u>
<input type="checkbox"/>	Pursuant to Rule: <u> </u>	Attachment <u> </u>
<input type="checkbox"/>	Pursuant to Federal Law/Rule: <u> </u>	Attachment <u> </u>
<input type="checkbox"/>	Other: <u> </u>	Attachment <u> </u>
<input type="checkbox"/>	Time Constraints: (explain)	

Meeting Date:
Agenda Item:
Page 3

DEVELOPMENTAL BACKGROUND:

<input type="checkbox"/> Advisory Committee Report/Recommendation	Attachment <input type="checkbox"/>
<input type="checkbox"/> Hearing Officer's Report/Recommendations	Attachment <input type="checkbox"/>
<input type="checkbox"/> Response to Testimony/Comments	Attachment <input type="checkbox"/>
<input type="checkbox"/> Prior EQC Agenda Items: (list)	Attachment <input type="checkbox"/>
<input type="checkbox"/> Other Related Reports/Rules/Statutes:	Attachment <input type="checkbox"/>
<input type="checkbox"/> Supplemental Background Information	Attachment <input type="checkbox"/>

The pollution control program has been in effect since 1968 to provide credits for installation of pollution control equipment. The Statute requires Environmental Quality Commission approval of the amount certified for pollution control.

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

None.

PROGRAM CONSIDERATIONS:

None.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

None.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

1. The Department recommends the Environmental Quality Commission approve T-2113, T-2167, T-2210, T-2459, T-2609, T-2803, T-2804 & T-2805 in that they comply with the Pollution Control Tax Program's requirements and regulations.
2. The Department recommends the Environmental Quality Commission deny T-2191, Forrest Paint because the monitoring wells were required as part of cleanup of past unauthorized practices which are not eligible for tax credit under state statute.
3. The Department recommends the Environmental Quality Commission grant Entek Manufacturing, Inc. a one year extension for filing a final application, in that the applicant is unable to provide the necessary information to meet the two year deadline.

Meeting Date:
Agenda Item:
Page 4

4. The Department recommends the Environmental Quality Commission approve the transfer of T-1493, T-1526, T-1528, T-1529, T-1530, T-1777, T-1783, and T-1784 from ESCO Corporation (incorporated July 3, 1913) to ESCO Corporation (incorporated December 29, 1988) in that the pollution control facilities have been transferred to said corporation as of May 18, 1989.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

Yes.

Note - Pollution Tax Credit Totals:

Proposed July 21, 1989 Totals

Air Quality	\$ 114,765
Water Quality	44,239
Hazardous/Solid Waste	-0-
Noise	62,320
	<u>\$ 221,324</u>

1989 Calendar Year Totals (excluding July 21 totals)

Air Quality	\$1,110,227
Water Quality	6,255,119
Hazardous/Solid Waste	19,500
Noise	-0-
	<u>\$7,384,846</u>

ISSUES FOR COMMISSION TO RESOLVE:

In its evaluation of the Department's recommendation of denial for T-2191 the Environmental Quality Commission may want to consider the following:

1. Is the Department's interpretation of statutory and rule provisions governing unauthorized spills or releases accurate?

ORS 468.155

(2) "Pollution control facility" or "Facility" does not include: (f) Property installed, constructed, or used for cleanup of emergency spills or unauthorized releases, as defined by the Commission.

Meeting Date:
Agenda Item:
Page 5

OAR 340-16-025

(3) "Pollution control facility" or "facility" does not include: (g) Property or facilities installed, constructed or used for cleanup of emergency spills or unauthorized releases. This includes any facility installed, constructed or used for cleanup after a spill or unauthorized release has occurred.

It is the Department's position, based on OAR 340-16-010 (12)(b) that spills or unauthorized releases that have occurred while operating in compliance with Department of Environmental Quality (DEQ) or EPA requirements would be eligible for tax credit. However, spills or releases which occurred outside of DEQ/EPA purvue, and facilities which were not operating in compliance with legal requirements would not be eligible.

INTENDED FOLLOWUP ACTIONS:

Notify applicants of Environmental Quality Commission actions.

Approved:

Section:

Roberta Young

Division:

David Souza for Fred Hartman

Director:

Lydia Taylor

Report Prepared By: Roberta Young

Phone: 229-6408

Date Prepared: June 15, 1989

RYoung:y
MY8528
June 28, 1989

State of Oregon
Department of Environmental Quality
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Oregon Steel Mills
P.O. Box 2760
Portland, OR 97208

The applicant owns and operates a steel mill in Portland, Oregon. Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The claimed facility is a gasoline and diesel fueling station for in-plant vehicles. A portion of the facility is allocable to water-pollution control; the incremental cost of double-walled fuel tanks over single-walled tanks, secondary-containment piping and a leak-detection and monitoring system.

Claimed facility cost eligible for tax-credit: \$70,909.85
(Accountant's Certification was provided).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

- a. The request for preliminary certification was filed May 30, 1986, less than thirty (30) days before construction commenced in June 1986.

However, according to the process provided in OAR 340-16-015(1)(b) the application was reviewed by DEQ staff and the applicant was notified that the application was complete and that construction could commence.

- b. The request for preliminary certification was approved before application for final certification was made.
- c. Construction of the facility was substantially completed on September 12, 1986 and the application for final certification was found to be complete on May 18, 1988, within 2 years of substantial completion of the facility.

4. Evaluation of Application

- a. The facility is eligible because the sole purpose of the facility is to prevent a substantial quantity of water pollution.

This prevention is accomplished by the elimination of industrial waste as defined in ORS 468.700.

An existing fueling station was built in 1983 with single-walled, coated underground tanks and single-walled piping. The station was located in an area of very high groundwater that had been used as a ship bilge-dump during WWII.

The potential existed for contamination of soil and groundwater by leakage and spillage of fuel.

The existing facility was removed and the new one built to reduce the risk of leakage.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- (1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

- (2) The estimated annual percent return on the investment in the facility.

The claimed facility does not generate income and the applicant has estimated that operations and maintainance costs are greater than those of the original facility. The ROI is thus zero.

- (3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for prevention of soil and groundwater pollution by containing fuel leaks.

The applicant considered groundwater monitoring of the original fueling station as an alternative to replacing the facility. Replacement was chosen because the initial cost of monitoring was estimated at over \$24,000 with annual operating costs of \$20,000.

Since the tanks were in an area with potential groundwater contamination from past practices (past bilge-pumping area), it would have been difficult and expensive to detect small

amounts of leakage from this facility by groundwater monitoring.

- (4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

See ROI discussion in Item 2.

- (5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

Portions of the fuelling station were not allocable to water pollution and the applicant was requested to provide more information on the allocable portions. It was agreed that the allocable portion of the claimed facility cost was \$24,331.00, or 34.31 percent. (See attached spreadsheet for details.)

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for final tax credit certification in that the sole purpose of the facility is to prevent a substantial quantity of water pollution and accomplishes this purpose by the elimination of industrial waste as defined in ORS 468.700.
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 34.31 percent.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$70,909.85 with 34.31 percent allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-2113.

Jerry E. Turnbaugh
IW\WH3556 (WTRR)
(503) 229-5374
July 5, 1989

Calculation of Allocable Tax-Credit Costs
 Oregon Steel Mills, t-2113
 July 5, 1989

Facility Description: Fueling Station

Item	Claimed Cost	Percent Allocable	Allocable Cost
Double-wall 5,000 gal gasoline tank	\$6,251.00	61.61%	\$3,851.00
Diked 12,000 gal diesel tank	\$14,650.00	66.55%	\$9,750.00
Leak-X tank, piping & monitoring	\$5,625.00	100.00%	\$5,625.00
Strobe light visual alarm	\$330.00	100.00%	\$330.00
Red Jacket line leak detector	\$175.00	100.00%	\$175.00
Secondary piping & leak detection	\$4,600.00	100.00%	\$4,600.00
Pumps, island, air, water, other	\$39,278.85	0.00%	\$0.00
=====			
Totals	\$70,909.85	34.31%	\$24,331.00

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

White Consolidated Industries, Inc.
11770 Berea Road
Cleveland, Ohio 44111

The applicant owns and operates a kitchen cabinet manufacturing plant and a solid wood dimension mill in Hillsboro, Oregon.

Application was made for tax credit for a noise pollution control facility.

2. Description of Facility

The facilities described in this application consist of two (2) prefabricated acoustical fan enclosures, two (2) absorptive plywood enclosures, an eight (8) foot high by two hundred and fifteen (215) foot long noise barrier, acoustical lagging material, and acoustical jacketing material.

Claimed Facility Cost: \$62,320
(Accountant's Certification was provided).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

- a. The request for preliminary certification was filed August 15, 1986, more than 30 days before installation commenced on October 6, 1986.
- b. The request for preliminary certification was approved before application for final certification was made.
- c. Installation of the facility was substantially completed on June 8, 1988, and the application for final certification was found to be complete on April 7, 1989 within 2 years of substantial completion of the facility.

4. Evaluation of Application

a. The facility is eligible because the principal purpose of the facility is to comply with a requirement imposed by the Department to control noise pollution. The requirement is to comply with OAR 340-35-035, which requires such sources not to exceed established decibel limits. Staff's compliance survey has confirmed that the installed equipment and materials has reduced noise levels at the site and successfully resolved past noise violations.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

The gross cost incurred for the installation of the materials and equipment totalled \$62,320, all being eligible for noise pollution control tax credits. The cost of \$62,320 was incurred by the applicant to meet requirements imposed by the Department. As there is no income from the facility, there is no return of the investment.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

Alternative methods of noise reduction (including alternate enclosure designs and relocation/replacement of equipment) were considered but they involved costs greater than those claimed due to outright material and equipment costs or additional costs incurred due to disruptions of the manufacturing process.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

There is no savings from the facility. The cost of maintaining and operating the facility is \$1,000.00 annually.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for final tax credit certification in that the principal purpose of the facility is to comply with a requirement imposed by the Department to control noise pollution.
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$62,320 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-2167.

JJR:t
NOISE\ST77
(503) 229-5092
6/6/89

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Precision Castparts Corp.
4600 S.E. Harney Drive
Portland, OR 97206

The applicant owns and operates a foundry for the production of metal parts in Clackamas, Oregon.

Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The claimed facility is a chemical containment facility of approximately 600 sq. ft. in area for temporary storage of acids, caustics and solvents. The facility consists of a concrete slab surrounded by containment curbs, covered by a metal building.

Project Costs:

Contractor	\$ 13,044.00
PCC Labor & Materials	106.52
	<hr/>
Total Claimed Facility Cost: ..	\$ 13,150.52

Accountant's Certification was provided.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

- a. The request for preliminary certification was filed December 1, 1986, more than 30 days before construction commenced on March 5, 1987.
- b. The request for preliminary certification was approved before application for final certification was made.
- c. Construction of the facility was substantially completed on June 23, 1987, and the application for final certification was found to be complete on November 15, 1988, within 2 years of substantial completion of the facility.

4. Evaluation of Application

- a. The sole purpose of the facility is to prevent a substantial quantity of water pollution.

This prevention is accomplished by the elimination of industrial waste as defined in ORS 468.700.

Before construction of this facility, 60-80 barrels of potassium hydroxide, 16-30 empty barrels that contained hydrochloric acid and 16-30 barrels of spent trichloroethylene were stored on an uncovered, asphalted area with no spill containment. Should a spill have occurred, it could have run off to contaminate surfacewater or groundwater.

All material is now stored in the new facility which will contain spills and prevent possible contamination of surfacewater and groundwater.

The facility was inspected by the Northwest Region Office and found to be constructed according to submitted plans.

- b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

There is no income from the facility and the applicant indicates there are no savings from the facility, so there is no return on the investment.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an effective method for elimination of pollution due to chemical spills.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

(See item 2 above.)

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

Based on the above factors, the portion of the cost allocable to pollution control is determined to be 100 percent.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for final tax credit certification in that the sole purpose of the facility is to prevent a substantial quantity of water pollution and accomplishes this purpose by the elimination of industrial waste as defined in ORS 468.700.
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100-percent.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$13,150.52 with 100-percent allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-2636.

Jerry E. Turnbaugh
IW/WH3339 (WTRR)
(503) 229-5374
April 4, 1989

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Cameron Buck
Secretary/Manager
Blue Sky Farm, Inc.
17728 Butteville Road NE
Woodburn, Oregon 97071

The applicant owns and operates a grass seed farm operation in Woodburn, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Equipment

The equipment described in this application is a Rears 30-foot propane flamer used to sanitize grass seed fields that would otherwise be open burned. The equipment is owned by the applicant.

Claimed equipment cost: \$6,758.00
(Accountant's Certification was not provided, but the application was accompanied by the appropriate invoices.)

3. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The equipment has met all statutory deadlines in that:

- a. The request for preliminary certification was filed March 24, 1988, more than 30 days before purchase on August 1, 1988.
- b. The request for preliminary certification was approved before application for final certification was made.
- c. Purchase of the equipment was substantially completed on August 1, 1988, and the application for final certification was found to be complete on April 24, 1989, within two years of substantial purchase of the equipment.

4. Evaluation of Application

a. The equipment is eligible because the sole purpose of the facility is to reduce a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468.275, and the equipment's qualification as a "pollution control facility", defined in OAR 340-16-025(1). The equipment also meets the definition provided in OAR 340-16-025 (2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the facility is used to recover and convert waste products into a saleable or usable commodity.

The equipment promotes the reduction of air pollution by reducing the level of smoke emissions from fields which would otherwise be open burned.

2. The estimated annual percent return on the investment in the equipment.

There is no return on investment for this equipment as there is no gross annual income.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution. The method is the least costly, most effective method of reducing air contaminants.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The cost of maintaining and operating the equipment is \$4,000 annually.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible for final tax credit certification in that the sole purpose of the equipment is to reduce a substantial quantity of air pollution and accomplishes this purpose by the reduction of air contaminants, as defined in ORS 468.275.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$6,758.00, with 100% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-2459.

J. Britton:ka
(503) 686-7837
April 27, 1989

State of Oregon
Department of Environmental Quality
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Cameron Buck
Secretary/Manager
Blue Sky Farm, Inc.
17728 Butteville Road NE
Woodburn, Oregon 97071

The applicant owns and operates a grass seed farm operation in Woodburn, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Equipment

The equipment described in this application is a John Deere Model 455 cover crop disk used to work straw into the ground of grass seed fields that would otherwise be open burned. The equipment is owned by the applicant.

Claimed equipment cost: \$5,000.00
(Accountant's Certification was not provided, but the application was accompanied by an appropriate invoice.)

3. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The equipment has met all statutory deadlines in that:

- a. The request for preliminary certification was filed July 6, 1988, less than 30 days before purchase on July 16, 1988.

However, according to the process provided in OAR 340-16-015(1)(b), the application was received by DEQ staff and the applicant was notified that the application was complete, and purchase could be made.

- b. The request for preliminary certification was approved before application for final certification was made.

- c. Purchase of the equipment was substantially completed on July 16, 1988, and the application for final certification was found to be complete on April 25, 1989, within two years of substantial purchase of the equipment.

4. Evaluation of Application

- a. The equipment is eligible because the sole purpose of the facility is to reduce a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468.275, and the equipment's qualification as a "pollution control facility", defined in OAR 340-16-025(1). The equipment also meets the definition provided in OAR 340-16-025 (2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

- b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the facility is used to recover and convert waste products into a saleable or usable commodity.

The equipment promotes the reduction of air pollution by working straw into fields which would otherwise be open burned.

2. The estimated annual percent return on the investment in the equipment.

There is no return on investment for this equipment as there is no gross annual income. Applicant stated that the sole purpose is for pollution control.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The cost of maintaining and operating the equipment is \$1,800 annually.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible for final tax credit certification in that the sole purpose of the equipment is to reduce a substantial quantity of air pollution and accomplishes this purpose by the reduction of air contaminants, as defined in ORS 468.275.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$5,000.00, with 100% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-2609.

J. Britton:ka
(503) 686-7837
April 27, 1989

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Leroy & Lowell Kropf
24305 Powerline Road
Harrisburg, OR 97446

The applicant owns and operates a grass seed farm operation in Linn, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Equipment

The equipment described in this application is a Rears 30-foot propane flamer used to sanitize grass seed fields after the straw residue has been removed. The equipment is owned by the applicant.

Claimed equipment cost: \$6,565
(Accountant's Certification was not provided, but the appropriate invoice was submitted.)

3. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The equipment has met all statutory deadlines in that:

- a. The request for preliminary certification was filed March 10, 1989, less than 30 days before purchase on March 27, 1989.

However, according to the process provided in OAR 340-16-015(1)(b), the application was received by DEQ staff and the applicant was notified that the application was complete, and purchase could commence.

- b. The request for preliminary certification was approved before application for final certification was made.
- c. Purchase of the equipment was substantially completed on March 27, 1989, and the application for final certification was found to be complete on May 19, 1989, within two years of substantial purchase of the equipment.

4. Evaluation of Application

a. The equipment is eligible because the sole purpose of the facility is to reduce a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468.275, and the equipment's qualification as a "pollution control facility", defined in OAR 340-16-025(1). The equipment also meets the definition provided in OAR 340-16-025(2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the facility is used to recover and convert waste products into a saleable or usable commodity.

The equipment promotes the reduction of air pollution by providing field sanitation after removal of straw from fields which would otherwise be open burned.

2. The estimated annual percent return on the investment in the equipment.

There is no return on investment for this equipment as it produces no annual income.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The cost of maintaining and operating the equipment is \$4,500 annually.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible for final tax credit certification in that the sole purpose of the equipment is to reduce a substantial quantity of air pollution and accomplishes this purpose by the reduction of air contaminants, as defined in ORS 468.275.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$6,565, with 100% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-2803.

J. Britton:ka
(503) 686-7837
May 23, 1989

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Leroy & Lowell Kropf
24305 Powerline Road
Harrisburg, OR 97446

The applicant owns and operates a grass seed farm operation in Linn County, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Equipment

The equipment described in this application is a John Deere 4955 tractor and 2810 plow used to plow under grass seed straw residue. The equipment is owned by the applicant.

Claimed equipment cost: \$ 98,200
(Accountant's Certification was provided.)

3. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The equipment has met all statutory deadlines in that:

- a. The request for preliminary certification was filed March 13, 1989, more than 30 days before purchase on April 24, 1989.
- b. The request for preliminary certification was approved before application for final certification was made.
- c. Purchase of the equipment was substantially completed on April 24, 1989, and the application for final certification was found to be complete on May 19, 1989, within two years of substantial purchase of the equipment.

4. Evaluation of Application

a. The equipment is eligible because the sole purpose of the facility is to reduce a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468.275, and the equipment's qualification as a "pollution control facility", defined in OAR 340-16-025(1). The equipment also meets the definition provided in OAR 340-16-025(2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the facility is used to recover and convert waste products into a saleable or usable commodity.

The equipment promotes the reduction of air pollution by plowing under grass seed straw residue from fields which would otherwise be open burned.

2. The estimated annual percent return on the investment in the equipment.

There is no return on investment for this equipment as they produce no annual income when used for pollution control.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The cost of maintaining and operating the equipment is \$9,000 annually.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

The other factor to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution is that its estimated use for other farm operations is 26%. Applicant determined estimated use.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 74%.

5. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible for final tax credit certification in that the sole purpose of the equipment is to reduce a substantial quantity of air pollution and accomplishes this purpose by the reduction of air contaminants, as defined in ORS 468.275.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 74%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$98,200, with 74% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-2804.

J. Britton:ka
(503) 686-7837
May 23, 1989

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Leroy & Lowell Kropf
24305 Powerline Road
Harrisburg, OR 97446

The applicant owns and operates a grass seed farm operation in Linn, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Equipment

The equipment described in this application is a 14-foot John Deere flail chopper used to chop field straw to facilitate incorporation into the soil. The equipment is owned by the applicant.

Claimed equipment cost: \$5,000
(Accountant's Certification was not provided, but the appropriate invoice was submitted.)

3. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The equipment has met all statutory deadlines in that:

- a. The request for preliminary certification was filed March 10, 1989, less than 30 days before purchase on March 27, 1989.

However, according to the process provided in OAR 340-16-015(1)(b), the application was received by DEQ staff and the applicant was notified that the application was complete, and purchase could commence.

- b. The request for preliminary certification was approved before application for final certification was made.
- c. Purchase of the equipment was substantially completed on March 27, 1989, and the application for final certification was found to be complete on May 19, 1989, within two years of substantial purchase of the equipment.

4. Evaluation of Application

a. The equipment is eligible because the sole purpose of the facility is to reduce a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468.275, and the equipment's qualification as a "pollution control facility", defined in OAR 340-16-025(1). The equipment also meets the definition provided in OAR 340-16-025(2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the facility is used to recover and convert waste products into a saleable or usable commodity.

The equipment promotes the reduction of air pollution by facilitating incorporation into the soil straw from fields which would otherwise be open burned.

2. The estimated annual percent return on the investment in the equipment.

There is no return on investment for this equipment as it produces no annual income. This equipment is used for no other purpose.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The cost of maintaining and operating the equipment is \$1,500 annually.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible for final tax credit certification in that the sole purpose of the equipment is to reduce a substantial quantity of air pollution and accomplishes this purpose by the reduction of air contaminants, as defined in ORS 468.275.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$5,000, with 100% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-2805.

J. Britton:ka
(503) 686-7837
May 23, 1989

State of Oregon
Department of Environmental Quality

REQUEST FOR EXTENSION TO FILE A FINAL APPLICATION

1. Applicant

Entek Manufacturing, Inc.
250 North Hansard Avenue
Lebanon, Oregon 97355

2. Request

Applicant requests a one year extension of time to file a final certification application. Preliminary certification was approved December 26, 1986 and substantial completion of the facility occurred on September 15, 1987.

Applicant's reasons for the extension are as follows:

"1) Our annual accounting year is April 1 through March 31. Our fiscal year ending March 31, 1989, the first complete fiscal year after installation of the facility, is the best, timely, representative period for making annual cash flow and return on investment computations for the claimed facility. We are just now completing our accounting for this fiscal year. Additional time is necessary to compile operating data together with supporting auditable documentation re: the claimed facility for this accounting period.

"2) The construction and installation costs related to the claimed facility are a portion of combined costs that pertain to both the claimed facility and our production facilities. Our original accounting of these costs in 1987 did not identify or allocate costs between the claimed facility and production facilities. Compiling direct and allocable costs of the claimed facility together with auditable supporting documentation is requiring more time than we had anticipated."

3. Authority

OAR 340-16-020 (e) provides the Commission with authority to grant extension of time to file an application if circumstances beyond the control of the applicant would make a timely filing unreasonable.

4. Director's Recommendation

The Director recommends the Commission grant Entek a one year filing extension which would terminate on September 15, 1990 to allow the company additional time for compiling operating data and identifying allocable costs.



MANUFACTURING INC.

250 North Hansard Avenue
Lebanon, Oregon 97355

Telephone (503) 259-3901
Telex: 9102403860

Management Services Div.
Dept. of Environmental Quality

RECEIVED
MAY 03 1989

April 26, 1989

State of Oregon
Department of Environmental Quality
Management Services Division
PO Box 1760
Portland, OR 97207

Re: File Reference 22-6024
Tax Credit #TC-2215

We request an extension of time until November 1, 1989 to file the Application for Final Certification of a Pollution Control Facility for Tax Relief Purposes Pursuant to ORS 468.155 Et Seq.

The following circumstances, beyond the control of this applicant, make a timely filing of the application unreasonable.

The continuous program of construction and installation of the claimed facility was started in March, 1987 and was completed in May, 1987. We have delayed our filing primarily because:

- 1) Our annual accounting year is April 1 through March 31. Our fiscal year ending March 31, 1989, the first complete fiscal year after installation of the facility, is the best, timely, representative period for making annual cash flow and return on investment computations for the claimed facility. We are just now completing our accounting for this fiscal year. Additional time is necessary to compile operating data together with supporting auditable documentation re: the claimed facility for this accounting period.
- 2) The construction and installation costs related to the claimed facility are a portion of combined costs that pertain to both the claimed facility and our production facilities. Our original accounting of these costs in 1987 did not identify or allocate costs between the claimed facility and production facilities. Compiling direct and allocable costs of the claimed facility together with auditable supporting documentation is requiring more time than we had anticipated.

Sincerely,

James J. Jack
President
Entek Manufacturing, Inc.
Emark, Inc.

State of Oregon
Department of Environmental Quality
811 S. W. Sixth Avenue
Portland, OR 97204

To: Entek Manufacturing, Inc.
3222 East Hwy 34
Tangent, OR 97389

Date: December 23, 1986

File Reference: 22-6024
Notice of Construction No.
Tax Credit No. TC-2215, received
12-11-86

Department action, as indicated below, has been taken on your Notice of Intent to Construct and Request(s) for Construction Approval and/or Preliminary Certification for Tax Credit for the proposed facility.

<u>Project</u>	<u>Project Description</u>	<u>Plans & Specifications Identification</u>
Porous plastic membrane plant 250 N. Hansard Ave. Lebanon, OR	Carbon bed adsorption system to collect trichloroethylene (TCE) vapors	Vara International, Inc. letter dated 12-09-86 and air permit application

PLANS & SPECIFICATIONS AND CONSTRUCTION APPROVAL

/ / - APPROVED - Subject to the conditions listed on the reverse side.

PRELIMINARY CERTIFICATION FOR TAX CREDIT OF A POLLUTION CONTROL FACILITY

/ X / - APPROVED - This preliminary certification makes the proposed facility eligible for consideration for tax credit but does not insure that any specific part or all of the pollution control facility will be issued a tax credit certificate.
See reverse side.

/ / - NO APPROVAL - Facility not eligible for tax credit consideration.

If the Department can be of assistance, or if there are any questions, please contact:

Ray Potts, Senior Environmental Engineer, 229-6093
(Name) (Title) (Phone)

Sincerely,

Lloyd Kostow
Lloyd Kostow, Manager
Program Operations
Air Quality Division

cc: Willamette Valley Region, DEQ

PLANS & SPECIFICATIONS AND CONSTRUCTION APPROVAL CONDITIONS

1. The construction of the project shall be in strict conformance to approved plans and specifications identified above. No changes or deviations shall be made without prior written approval of the Department of Environmental Quality (DEQ).
2. Granting approval does not relieve the owner of the obligation to obtain required local, state, and other permits and to comply with the appropriate Statutes, Administrative Rules, Standards, and, if applicable, to demonstrate compliance.
3. Please fill out and return the enclosed Notice of Construction Completion form within 30 days upon completion of this approved project.
4. The air pollution control facility consists of the carbon bed adsorption unit, condenser for the stripping steam, distillation tower, controls, monitoring devices, portion of the steam boiler capacity necessary to operate the carbon bed adsorption unit and the distillation tower, solvent vapor ducting, and ancillary equipment.
5. The final tax credit application will have to show how the air pollution control facility meets the return on investment requirements of the tax credit rule.

STATE OF OREGON
 DEPARTMENT OF ENVIRONMENTAL QUALITY
 811 SW SIXTH AVENUE
 PORTLAND, OR 97204

NOTICE OF APPROVED CONSTRUCTION COMPLETION

RETURN THIS FORM WITHIN THIRTY (30) DAYS OF COMPLETION OF APPROVED CONSTRUCTION

APPLICANT COMPLETE	INDICATE TYPE OF FACILITY		
	<input checked="" type="checkbox"/> AIR	<input type="checkbox"/> NOISE	<input type="checkbox"/> WATER
	<input type="checkbox"/> SOLID WASTE	<input type="checkbox"/> HAZARDOUS WASTE	<input type="checkbox"/> USED OIL
	WAS PRELIMINARY CERTIFICATION FOR POLLUTION CONTROL TAX CREDIT RECEIVED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> WILL FINAL CERTIFICATION FOR POLLUTION CONTROL TAX CREDIT BE REQUESTED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		
	APPLICANT NAME		PHONE
	ENTEK MANUFACTURING INC.		503-259-3901
	ADDRESS	CITY & ZIP CODE	
P.O. BOX 39, 250 NORTH HANSARD AVE	LEBANON, OR 97355		
DESCRIPTION OF FACILITY			
CARBON BED VAPOR ADSORPTION FACILITY			
DATE FACILITY COMPLETED		DATE PLACED IN OPERATION	
SEPTEMBER 15, 1987		SEPTEMBER 15, 1987	
SIGNATURE	TITLE	DATE	
<i>James E. Alexander</i>	PROCESS ENGINEER	6-20-89	

FOR DEQ USE ONLY	REQUEST NO.	FILE NO.	DATE RECEIVED
	TC-2215	22-6024	12-11-86
	ASSIGNED FOR INSPECTION TO	BY	DATE
	INSPECTION REPORT BY		DATE
	SUMMARY OF INSPECTION		
DATE CC TO EI		C ATTACHMENTS	

State of Oregon

Department of Environmental Quality

TRANSFER OF POLLUTION CONTROL FACILITY CERTIFICATES

I. Certificates to be transferred from:

ESCO Corporation (incorporated July 3, 1913)
2141 N.W. 25th Avenue
Portland, Oregon 97210

Certificates to be transferred to:

ESCO Corporation (incorporated December 29, 1988)
2141 N.W. 25th Avenue
Portland, Oregon 97210

Certificates to be transferred:

<u>Description</u>	<u>Certificate No.</u>	<u>Date Approved</u>
1. 1980 Fuller Dust Collector	1493	07/16/82
2. 1982 V Process Dust Collector	1526	10/15/82
3. 1982 Slinger Bay	1528	10/15/82
4. 1982 Draft Hoods Baghouse	1529	10/15/82
5. 1982 Rotoblast Baghouse	1530	10/15/82
6. 1984 Tech Center Dust Collector	1777	12/14/84
7. 1985 Plant 2 Dust Collector	1783	03/05/85
8. 1985 Plant 3 Dust Collector	1784	03/05/85

II. Summation:

The Environmental Quality Commission issued the above pollution control facility certificates to ESCO Corporation. ESCO has transferred its ownership of its facilities to NEWESCO Corporation; shortly after the transfer the name was changed to ESCO Corporation, the same name as the existing company.

III. Director's Recommendation:

The Director recommends that the Environmental Quality Commission approve the transfer of the above stated certificates. The transfer is valid only for the remaining available tax credit from the issuance dates.



ESCO CORPORATION 2141 N.W. 25TH AVENUE P.O. BOX 10123 PORTLAND, OREGON 97210 U.S.A. TELEPHONE (503) 228-2141 TELEX 36-0590

May 17, 1989

Ms. Roberta Young
Oregon Department of
Environmental Quality
Management Services Division
811 S.W. Sixth Avenue
Portland, Oregon 97201

Reference: ESCO Corporation Pollution Control
Tax Credit Certificates

Dear Ms. Young:

ESCO Corporation is currently the holder of the pollution control tax credit certificates identified in Exhibit A attached hereto. On May 18, 1989, as part of a corporate reorganization, ESCO Corporation will transfer to NEWESCO Corporation its ownership of the facilities for which these certificates were issued. Several days after the transfer, NEWESCO Corporation's name will be changed to ESCO Corporation. The new ESCO Corporation will operate the pollution control facilities with the same personnel and in the same manner as the old ESCO Corporation has. However, the new ESCO Corporation will have a different Employer Identification Number.

Stark Ackerman, an attorney representing ESCO Corporation, has discussed this proposed corporate reorganization with you and with representatives of the Oregon Department of Revenue. The recommendation of the Department of Revenue, to which you deferred, was that under these circumstances ESCO Corporation should transfer the pollution control tax credit certificates, even though the pollution control facilities will be transferred to a corporation that will have the same name.

In light of this advice, I would like to request, on behalf of ESCO Corporation, that certificates currently issued to ESCO Corporation and described in Exhibit A, be revoked as of May 18, 1989. In addition, I would like

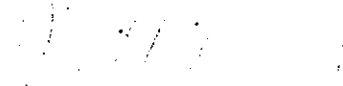
Ms. Roberta Young
May 17, 1989 - Page 2

be revoked as of May 18, 1989. In addition, I would like to request, on behalf of NEWESCO Corporation, that the certificates currently issued to ESCO Corporation and described in Exhibit A be transferred and reissued to NEWESCO Corporation under its soon to be assigned name of ESCO Corporation.

I understand the confusion that might result from this transfer, since the transfer will be from ESCO Corporation to ESCO Corporation, but I have been advised that, given the nature of this corporate reorganization, it is appropriate to do it this way. It might be helpful if you distinguished the old ESCO Corporation from the new ESCO Corporation using their different dates of incorporation. The current ESCO Corporation was incorporated on July 3, 1913. NEWESCO Corporation (which will become ESCO Corporation) was incorporated on December 29, 1988.

If you need any additional information or have any questions regarding this request, please call our attorney, Stark Ackerman, at 224-5560.

Very truly yours,


Kenneth M. McCaw, Jr.
Secretary, ESCO Corporation
Secretary, NEWESCO Corporation

KMM:SA:llw
Enclosure

cc: Stark Ackerman, Esq.

EXHIBIT A

ESCO CORPORATION - POLLUTION CONTROL TAX CREDIT CERTIFICATES

	<u>Description</u>	<u>Certificate No.</u>	<u>Date Approved</u>
1.	1980 Fuller Dust Collector	1493	07/16/82
2.	1982 V Process Dust Collector	1526	10/15/82
3.	1982 Slinger Bay	1528	10/15/82
4.	1982 Draft Hoods Baghouse	1529	10/15/82
5.	1982 Rotoblast Baghouse	1530	10/15/82
6.	1984 Tech Center Dust Collector	1777	12/14/84
7.	1985 Plant 2 Dust Collector	1783	03/05/85
8.	1985 Plant 3 Dust Collector	1784	03/05/85

State of Oregon
Department of Environmental Quality

Supplemental Information to Final Tax Credit
Application Review Report for Forrest Paint

1. Additional Information:

At the April 14th EQC meeting, the Department was directed by the EQC to provide information on whether there was a difference of opinion or judgment between the Salem Region and Portland offices as to the question and conditions of eligibility. Mr. Forrest was requested to provide a cost breakdown of the 2" and 4" wells.

- a. Forrest Paint received preliminary approval for groundwater monitoring wells 2/2/87 by the Water Quality Division in Portland. The applicant believes that region staff stated the monitoring wells would be eligible for tax credit, depending on whether contaminants were found.

Salem region staff recall providing general tax credit information to Forrest Paint as they routinely provide to all business/industries contacts, and informing Mr. Forrest that monitoring wells at the time could be eligible. Staff could not recollect any conversation relative to the size of the wells, or eligibility being based on whether contamination was found. (Dave St.Louis telephone conversation 4/18/89).

- b. Forrest Paint applied for final tax credit certification, 4/8/88, for groundwater monitoring wells under the premise the wells were for detection purposes. Applicant believes credit should be approved under OAR 340-16-025 (2)(g) which authorizes tax credit for "Installation or construction of facilities which will be used to detect, deter, or prevent spills or unauthorized releases".

All of the wells installed by Forrest Paint were required by DEQ through its Hazardous Waste Program. None of the wells or activities required were designed as preventative or early detection measures. The wells were required to assess the extent of releases which occurred before the wells were installed. (Sandra Anderson, ECD, memo 3/13/89)

Monitoring wells may be eligible for tax credit if they are installed to detect, deter or prevent releases. The Pollution Control Tax Credit statute however, states that property for the cleanup of emergency spills or unauthorized releases as defined by the Commission, are not eligible. Consequently, the above rule provision does not apply to the cleanup of unauthorized releases.

In the preliminary application, Forest Paint acknowledged DEQ's intent in requiring the wells. The description, from the preliminary application, of the proposed wells and their functions stated, "... groundwater monitoring wells to measure and monitor the migration of certain hazardous wastes currently determined to be present on the location of Forrest Paint".

2. Findings to substantiate "unauthorized past practices":
 - a. Forrest Paint has owned and operated the facility since 1973 and is responsible for clean up of identified hazardous waste contamination.
 - b. As of 1971, under ORS 459.205, the depositing of solid waste on or off site is prohibited without a DEQ permit. There is no record of Forrest Paint being permitted for its activities which placed wastes in the ground on site.
 - c. Forrest Paint notified DEQ of its status as a hazardous waste generator on November 15, 1980.
 - d. The site history of Forrest Paint, which was prepared by Forrest Paint, states that the current owner disposed of wastes into a pond from 1973-79. No disposal permit was secured from DEQ for the pond.
 - e. There were a number of spills or releases which occurred on the site up to 1985.
 - f. According to the stipulation and consent Decree executed between Forrest Paint and DEQ: DEQ conducted a hazardous waste inspection of the facility on October 3, 1985, and subsequently issued a Notice of Violation of certain violations of state hazardous waste laws. (HW-WVR-85-190)
 - g. DEQ Environmental Cleanup Division staff state that wells were not designed as preventative or early detection measures. The wells were installed to assess the extent of releases from previous practices.
 - h. The preliminary application states that the contamination had occurred prior to the installation of the wells.
 - i. The 1987 statute amendment, which prohibits tax credit for unauthorized releases associated with clean up activities, was applied to the application.

Summary

The approval/denial of Forrest Paint's application for tax credit is to be based on an EQC determination of whether the proposed facilities are intended for prevention of environmental damage by early detections of spills/leaks, or, intended to assess the extent of impact of known unauthorized releases from past practices in conjunction with a clean up project.

The Director recommends that the Commission deny Forrest Paint's application T-2191 for tax credit certification in that state law does not authorize tax credit for facilities associated with the cleanup of unauthorized releases which has been substantiated by the above findings.

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: March 13, 1989

TO: Jerry Turnbaugh, Engineer
Water Quality Division

FROM: Sandra Anderson, Project Manager
Environmental Cleanup Division

SUBJECT: Pollution Tax Credit for Forrest Paint

RECEIVED
MAR 14 1989

Water Quality Division
Dept. of Environmental Quality

At your request I am responding to a letter of February 28, 1989 from Forrest Paint appealing denial of Forrest Paint's Pollution Tax Credit application.

Soils and ground water at Forrest Paint have been contaminated with hazardous substances as a result of past disposal practices and spills from underground lines and tanks. A copy of the history of the site is attached. The site history indicates solvents were disposed in an unpermitted pond from 1973 to 1979. Spills from tanks and underground lines also occurred during this time.

To address remediation of the contamination, Forrest Paint is subject to a Stipulation and Consent Decree signed August 8, 1988 pursuant to ORS 466.540 through 466.590. The Decree requires a Remedial Investigation, Feasibility Study, Selection of Remedial Action by DEQ, and selection and implementation of remedial design. All these activities and terms are defined in ORS 466.540. All these activities, and those remedial investigation activities occurring prior to the Consent Decree, including installation of monitoring wells, were and will be carried out to acquire enough information about the release to design and implement a remedial action. None of these wells or activities were designed as preventive measures or early detection measures, which is what I understand is the intended meaning of OAR 340-16-025(2)(g) allowing a tax credit. These wells were installed to assess the extent of releases which occurred years before the wells were installed, and to collect information leading to a cleanup. This use is what I understand is the intended meaning of OAR 340-16-025(3)(g) which excludes the facility from a tax credit.

I suggest you obtain a legal interpretation of OAR 340-16-025 from the Department of Justice. I will gladly provide any additional technical or historical information at your request.

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Forrest Paint Co.
1011 McKinley St. West
Eugene, OR 97402

The applicant owns and operates a paint and coatings manufacturing facility in Eugene, Oregon.

Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The claimed pollution control facility consists of seven groundwater monitoring wells to characterize the extent of contamination in the groundwater of the plant site.

Soils and groundwater at Forrest Paint have been contaminated with hazardous substances as a result of past disposal practices and spills from underground lines and tanks. A history of the site prepared by Mr. Scott Forrest, President, Forrest Paint Company, is attached.

The site history indicates solvents were disposed in an unpermitted pond from 1973 to 1979. Spills from tanks and underground lines also occurred during this time.

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The above activities and the remedial investigation activities occurring prior to the Consent Decree, including installation of monitoring wells, were and will be carried out to acquire enough information about the release to design and implement a remedial action.

Had the monitoring wells been installed before release as preventive or early detection measures, they would be eligible. The wells were installed to assess the extent of releases which occurred years before and to collect information leading to a cleanup.

Claimed Facility Cost: \$41,671.72 (includes engineering costs of \$26,111.37).

Accountant's Certification was provided.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

- a. The request for preliminary certification was filed October 2, 1986, more than 30 days before construction commenced on December 1, 1986.
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- c. Construction of the facility was substantially completed on December 9, 1987 and the application for final certification was found to be complete on December 14, 1988, within two years of substantial completion of the facility.

4. Evaluation of Application

- a. Applicant's groundwater monitoring wells do not qualify for tax credit for the following reasons:
 - 1) ORS 468.155(2)(f) does not allow pollution control facility tax credits for property installed, constructed or used for cleanup of emergency spills or unauthorized releases, as defined by the Commission. OAR 340-16-010(12)(a) defines emergency spill or unauthorized release in part as the discharge, deposit, injection, dumping, spillage, emitting, releasing, leakage or placing of oil, hazardous materials or other polluting substances into the air or onto any land or waters of the state. It exempts from such a definition facilities which were operated in compliance with requirements imposed by the Department or the Federal Environmental Protection Agency where the polluting substances which must now be cleaned up are determined by the Department to have been an unanticipated result of the approved facility or activity.
 - 2) Unauthorized releases occurred on the property as documented by Forrest Paint Co. and DEQ's Environmental Cleanup Division.
 - 3) In 1971, the Oregon Legislature passed ORS 459.205 which prohibited the depositing of solid waste on or off site without a permit from the Department. The Department

shows no record of Forrest Paint Company being permitted for this activity.

- 4) It is the Department's opinion that the applicant's past practice does not qualify under ORS 468.155(2)(f) as an activity allowed previously and the facility is not eligible for pollution control tax credit.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

There is no income or savings from the monitoring wells so there is no return on the investment.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for assisting in the control/cleanup of groundwater pollution.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

There are no savings from the facility.

The cost of maintaining and operating the facility is estimated by the applicant to be \$1000 annually.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

5. Summation

The applicant's groundwater monitoring wells do not qualify for tax credit under ORS 468.155(2)(f) because they are part of a facility for cleanup of an unauthorized release of pollutants.

6. Director's Recommendation

Based upon applicant's request for final tax credit certification and agency files, the Director determines that the facility does not comply with ORS Chapter 468 and related regulations and is not eligible for tax credit certification.

It is recommended that the Commission deny the request.

Jerry E. Turnbaugh
(IW\WJ1651) (WTRR)
(503) 229-5374
3/15/89

February 28, 1989

RECEIVED
FEB 28 1989

FAX (503) 344-5137
1011 MCKINLEY WEST POST OFFICE BOX 2768
EUGENE, OREGON 97402 (503) 342-1821

FORREST PAINT CO.

Water Quality Division
Department of Environmental Quality



Mr. Jerry E. Turnbaugh
Industrial Waste Engineer
Water Quality Division
Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390

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We appeal this on the following grounds:

1. You state that the law ORS 468.155 (2)(f) does not allow pollution control facility tax credits for "property installed, constructed or used for clean-up of emergency spill or unauthorized release....."

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It appears to me that the difference is whether the equipment was installed to detect or to cleanup a spill or unauthorized release.

The monitoring wells were installed first of all to detect if a release occurred. This is very clear in the fact that as a result of the monitoring wells we signed a consent decree agreeing to more fully investigate and address problems at the site. Without the data gathered from these wells, it would have been impossible to determine if a "release" occurred.

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I am enclosing a letter, dated December 12, 1988, from Sandra Anderson, Project Manager for the DEQ responsible for oversight at the Forrest Paint Site. She states that "Also, as you know, no remedial activities will take place until the Director has selected a remedy after completion of the RI/FS in accordance with Oregon Administrative Rule (OAR) 340-122." The latest schedule included with our Workplan submitted to the DEQ envisions the RI/FS being completed July of 1990. I understand her use of the term "remedial activities" to be the same as the law uses the term "cleanup". I cannot see how we would have spent over \$40,000 in 1986 - 1987 on a "remedial activity" which the director will not determine until late in 1990.

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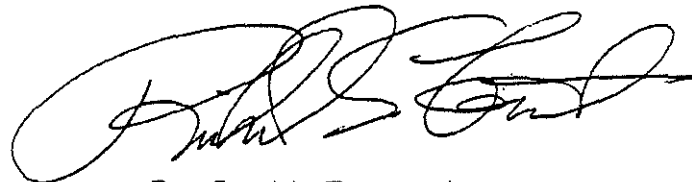
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3. You stated to Mr. Hillier over the phone that because the Monitoring wells are vaguely associated with the overall examination of the site which may lead to a "Cleanup" you feel justified in considering them as equipment bought for the "cleanup". However this is analogous to the situation in OAR 340-16-010 (7) where it addresses facilities which are part of a process which burns waste which is a non eligible activity but "it does not eliminate from eligibility a pollution control device associated with a process which burns waste if such device is otherwise eligible for pollution control tax credit under these rules." I suggest that it is also not right to condemn these detection wells for guilt by association.

Mr. Turnbaugh, I request that you either take another look at the application or that you pass it on to the Environmental Quality Commission with my comments. I also request to be notified of the time and place of that meeting and be given a chance to speak.

Because OAR 340-16-015 (4) requires that the request for hearing shall be mailed to the Director of the Department, I am Mailing a copy of this with a cover letter to Mr. Fred Hanson.

Sincerely,



R. Scott Forrest
President

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Department of Environmental Quality
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b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

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Jerry E. Turnbaugh
(IW\WJ1651) (WTRR)
(503) 229-5374
3/15/89

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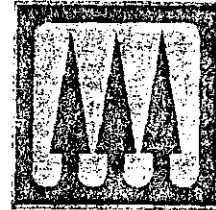
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1011 MCKINLEY WEST POST OFFICE BOX 2768
EUGENE, OREGON 97402 (503) 342-1621

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Water Quality Division
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Mr. Jerry E. Turnbaugh
Industrial Waste Engineer
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811 SW Sixth Avenue
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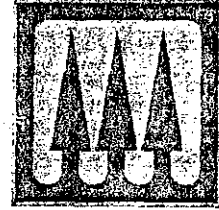
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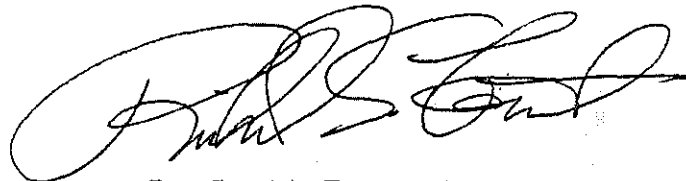
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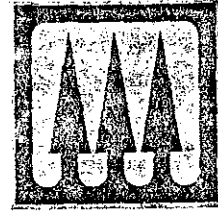
R. Scott Forrest
President

February 28, 1989

Rec'd 3/3/89

FORREST PAINT CO.

Mr. Fred Hanson
Director
Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390



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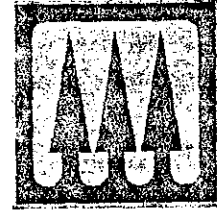
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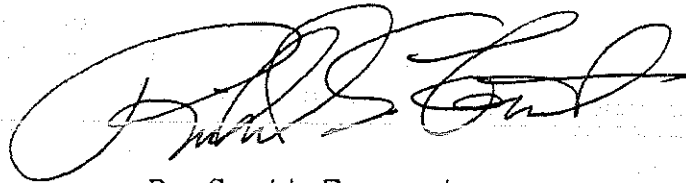
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3. You stated to Mr. Hillier over the phone that because the Monitoring wells are vaguely associated with the overall examination of the site which may lead to a "Cleanup" you feel justified in considering them as equipment bought for the "cleanup". However this is analogous to the situation in OAR 340-16-010 (7) where it addresses facilities which are part of a process which burns waste which is a non eligible activity but "it does not eliminate from eligibility a pollution control device associated with a process which burns waste if such device is otherwise eligible for pollution control tax credit under these rules." I suggest that it is also not right to condemn these detection wells for guilt by association.

Mr. Turnbaugh, I request that you either take another look at the application or that you pass it on to the Environmental Quality Commission with my comments. I also request to be notified of the time and place of that meeting and be given a chance to speak.

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A handwritten signature in black ink, appearing to read "R. Scott Forrest", written in a cursive style.

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In August 1981, Forrest Paint Company installed two 10,000-gallon and one 2,000-gallon underground storage tanks. The two big tanks contained toluene and xylene. The smaller tank contained acetone. In November 1985, because of the impending underground storage tank laws, all of the underground tanks were removed. The two larger tanks were reinstalled in a diked above ground area. There were no confirmed leaks found when the tanks were dug up.

In 1975, an underground line leading from the toluene tank to the factory leaked due to corrosion and most of the contents of one tank was lost to the environment. In November 1978, a different underground line failed and a tank of methyl ethyl ketone was leaked into the ground. In late 1978, all of the underground lines were replaced with new lines. In 1985, most of the below ground lines were replaced with lines above the ground. There was one section of lines about 16 feet long where the lines were run in the ground below a doorway, which was not replaced. These lines were replaced in 1986. Forrest Paint Company no longer has any chemical lines below the ground.

In later 1984 and early 1985, Forrest Paint Company constructed the fourth building on the site; this was a 5,000-square-foot building and aerosol production building. This building is the most easterly of all the buildings and is generally referred to as the "new warehouse."

In June 1988, the house originally owned by the Congers on the site was torn down. In its place, an 8,000-square-foot diked slab was installed. Forrest Paint intends to use this slab eventually for a new warehouse.

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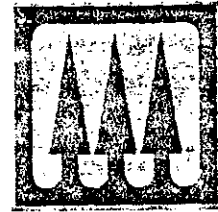
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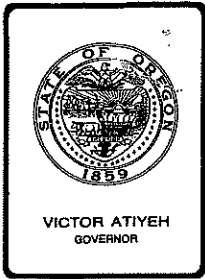
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Environmental Quality Commission

Mailing Address: BOX 1760, PORTLAND, OR 97207

522 SOUTHWEST 5th AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: F
Division: Air Quality
Section: Planning & Development

SUBJECT:

Request for authorization to conduct a public hearing to amend Standards of Performance for New Stationary Sources (OAR 340-25-505 to -805), and to amend Emission Standards and Procedural Requirements for Hazardous Air Contaminants (OAR 340-25-450 to -485).

PURPOSE:

To keep Department rules current with federal air regulations regarding New Source Performance Standards (NSPS) and the National Emission Standards for Hazardous Air Pollutants (NESHAPS), so as to maintain delegation of authority to administer all appropriate aspects of these rules in Oregon.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment D
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment B
 - Public Notice Attachment C
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment
- Approve Department Recommendation
 - Variance Request Attachment
 - Exception to Rule Attachment
 - Informational Report Attachment
 - Other: (specify) Attachment

to be injured by the solvent). Initially, a fence was built on top of the dike that surrounded the tanks. The company later put three strands of barbed wire on top of the fence around the tanks. Finally, a locked fence was constructed around the entire back lot of the property. Warning signs were placed around the property warning of the dangers. Unfortunately, one of the steps taken was to place a lock on the bottom valve of the tank. One night, some juveniles broke both the lock and the valve off of the tank to get some solvent. The entire contents of the tank were spilled onto the ground. The vandalism and problems were finally stopped in 1978, and there have not been any problems since then. The dike was sealed in 1985 to make it watertight so any lost solvent would be caught before reaching the environment.

In August 1981, Forrest Paint Company installed two 10,000-gallon and one 2,000-gallon underground storage tanks. The two big tanks contained toluene and xylene. The smaller tank contained acetone. In November 1985, because of the impending underground storage tank laws, all of the underground tanks were removed. The two larger tanks were reinstalled in a diked above ground area. There were no confirmed leaks found when the tanks were dug up.

In 1975, an underground line leading from the toluene tank to the factory leaked due to corrosion and most of the contents of one tank was lost to the environment. In November 1978, a different underground line failed and a tank of methyl ethyl ketone was leaked into the ground. In late 1978, all of the underground lines were replaced with new lines. In 1985, most of the below ground lines were replaced with lines above the ground. There was one section of lines about 16 feet long where the lines were run in the ground below a doorway, which was not replaced. These lines were replaced in 1986. Forrest Paint Company no longer has any chemical lines below the ground.

In later 1984 and early 1985, Forrest Paint Company constructed the fourth building on the site; this was a 5,000-square-foot building and aerosol production building. This building is the most easterly of all the buildings and is generally referred to as the "new warehouse."

In June 1988, the house originally owned by the Congers on the site was torn down. In its place, an 8,000-square-foot diked slab was installed. Forrest Paint intends to use this slab eventually for a new warehouse.

CVR34/011

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DESCRIPTION OF REQUESTED ACTION:

EPA regularly adopts and amends New Source Performance Standards (Part 60 of federal protection of environment rules) and emission standards for hazardous air pollutants (Part 61 of federal protection of environment rules). The Department of Environmental Quality has historically committed to seek delegation to enforce each of these new rules in Oregon by bringing its rules up to date with EPA rules, when the Department believes those rules are applicable and appropriate in Oregon. "Applicable" means the existence of affected sources located in the state, or likely to move into the state. "Appropriate" means the federal rules are reasonable and enforceable within DEQ resources and enforcement policies. By maintaining delegation to administer these federal rules in Oregon, the Department believes it can provide a more efficient implementation of the rules and reduce the confusion of industry having to deal with two agencies (DEQ and EPA).

AUTHORITY/NEED FOR ACTION:

<input type="checkbox"/> Required by Statute: _____	Attachment _____
Enactment Date: _____	
<input checked="" type="checkbox"/> Statutory Authority: <u>ORS 468.020/468.295(3)</u>	Attachment _____
<input checked="" type="checkbox"/> Pursuant to Rule: <u>OAR 340-25-450 to -805</u>	Attachment _____
<input checked="" type="checkbox"/> Pursuant to Federal Law/Rule: <u>40 CFR Parts 60 and 61</u>	Attachment _____
<input type="checkbox"/> Other: _____	Attachment _____
<input type="checkbox"/> Time Constraints: (explain)	

DEVELOPMENTAL BACKGROUND:

<input type="checkbox"/> Advisory Committee Report/Recommendation	Attachment _____
<input type="checkbox"/> Hearing Officer's Report/Recommendations	Attachment _____
<input type="checkbox"/> Response to Testimony/Comments	Attachment _____
<input type="checkbox"/> Prior EQC Agenda Items: (list)	Attachment _____
<input type="checkbox"/> Other Related Reports/Rules/Statutes:	Attachment _____
<input checked="" type="checkbox"/> Supplemental Background Information	Attachment <u>A</u>

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The Department proposes to amend its administrative rules to adopt two new standards, modify 4 existing standards, and adopt by reference 16 other changes to standards and test methods, in order bring the State rules up to date with EPA's NSPS and NESHAPS rule changes, where appropriate and applicable.

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These proposed rules affect only industry which may build new, reconstruct, or modify air pollution sources. Of the two new standards, one may affect approximately 5 to 10 existing facilities in Oregon where volatile organic liquid storage vessels are in use, while the other may affect approximately the same number of facilities which operate relatively small-scale paint spray booths for plastic parts for business machines.

These federal rules are already promulgated by EPA, and therefore the sources affected are already subject to the costs of control and compliance. Adoption by and delegation to DEQ simplifies environmental administration, and may save industry time and cost in dealing with just one agency.

PROGRAM CONSIDERATIONS:

In acquiring the delegation to administer these federal rules in Oregon, the Department assumes responsibility of enforcing these rules. Currently the Department oversees 42 NSPS performance standards and 5 NESHAPS emissions standards. This proposed action adds only two new NSPS performance standards, with the remainder being amendments to current standards and test methods. The adoption of these rules is not expected to add significantly to the resource burden. The Department believes it can effectively administer and enforce these rules.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

The Department has considered two alternatives:

1. Recommend to the Commission adoption of all new and amended federal standards (in Oregon rule form), as listed in Attachment A - Supplemental Background Information.
2. Recommend to the Commission adoption of only those standards applicable to existing sources in Oregon, or to sources which could likely locate in Oregon in the future. This follows past practices and is acceptable to EPA. This would mean that the following NSPS and NESHAPS standards listed in Attachment A - Supplemental Background Information, would not be added:
 - a. Item 8, Fossil Fuel-Fired Steam Generators. This applies only to two boilers at a plant in Illinois.
 - b. Item 10, Rubber Tire Manufacturing. Not applicable. There are currently no such plants in Oregon.

- c. Item 17, Residential Wood Heaters. This rule will be addressed separately later as part of an overall update of DEQ's Woodstove Certification rules, to align them as much as possible with EPA's rules. DEQ will need to maintain its efficiency labelling program per statutory requirements, at least until EPA develops an equivalent program. DEQ should be able to defer to EPA the manufacturer's emission certification and labelling program, to provide for more efficient administration on a national basis, while retaining the authority to enforce at retail outlets, since EPA resources will not be able to adequately address this. The issue of improving the durability of stoves to insure maintaining peak inhome emission control may also need to be addressed, as results of EPA/DEQ inhome studies become available later this year.
- d. Item 18, PS 6 for Continuous Emission Rate Monitoring Systems (CERMS). After review with EPA, this was seen as not applicable to existing Oregon sources.
- e. Item 19, Extension to Kraft Pulp Mill. This applies only to a specific plant in Georgia.
- f. Item 21, Magnetic Tape Manufacturing. Not applicable. No current manufacturing in Oregon.
- g. Item 24, Petroleum Refinery Wastewater Systems. No current wastewater systems in Oregon (no petroleum refineries).
- h. Item 25, Magnetic Tape Manufacturing. Same as above f., Item 21.
- i. Item 29, Radionuclides. After review with EPA, seen as not applicable to Oregon. An emission primarily from elemental phosphorus plants; none currently in Oregon.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department prefers Alternative 2 because it would avoid adding unnecessary standards for sources which do not exist or are likely to exist in Oregon. If, at some time in the future, a new source locates in Oregon for which there are no applicable standards, the Department could then recommend adoption of new rules on a case-by-case basis. The Department recommends that the Commission authorize public hearings to take place concerning only the adoption of applicable standards.

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hearings to take place concerning only the adoption of applicable standards.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed action is consistent with the Fiscal Year 1989 State and EPA Agreement to bring its rules up to date with federal NSPS and NESHAPS rules changes. The Department is not aware of any conflicts involving these federal rules and agency or legislative policies.

ISSUES FOR COMMISSION TO RESOLVE:

No major issues. This is relatively straightforward updating of administrative rules.

INTENDED FOLLOWUP ACTIONS:

- o File hearing notice with the Secretary of State
- o Hold public hearing
- o Review oral and written testimony and revise proposed rules and amendments as appropriate
- o Return to Commission for final rule adoption

Approved:

Section:

Division:

Director:

John F. Kowalzyk
None None
Lysia R. Taylor

Report Prepared By: Brian Finneran

Phone: 229-6278

Date Prepared: July 6, 1989

BR:r
PLAN\AR453
(7/6/89)

ATTACHMENT A

SUPPLEMENTAL BACKGROUND INFORMATION

During 1987 and 1988, 5 new and 26 amended rules were published in the Federal Register by EPA. These federal rules covered the following source categories.

NATIONAL SOURCE PERFORMANCE STANDARDS

<u>40 CFR Subpart</u>	<u>New (N) or (A) Amended Rule</u>	<u>Subject of Rule Change</u>	<u>Register Date</u>
1. HH, 60.343 (b) and 60.344 (c)	A	Rule Revisions, Lime Manufacturing Plants	2/17/87
2. Appendix A, Method 18	A	Changes Gas Chromatography Test Method	2/19/87
3. A, 60.8	A	Amendments to Opacity Provisions	3/26/87
4. Ka, 60.111a to 60.114a	N	Standards For VOL Storage Vessels	4/08/87
5. Kb, 60.110b to 60.117b	A	Rule Revisions-Petroleum Liquid Storage Vessels	4/08/87
6. Appendix A, Method 15A	A	Add Test Method for Petroleum Refineries	6/01/87
7. Appendix F Procedure 1	A	QA Requirements for Gaseous CEM's	6/04/87
*8. D, 60.43a	A	Rule Revisions, Fossil- Fuel-Fired Steam Generators	8/04/87
9. Appendix A Method 10A	A	Add Test Method for Petroleum Refineries	8/17/87
*10. BBB, 60.540 to 548	N	Add Standard for Rubber Tire Manufacturing Industry	9/15/87

ATTACHMENT A

11.	Appendix A Methods 16A and 16B	A	Add Test Method, Sulfur Emissions	9/29/87
12.	Appendix A Method 6	A	Changes SO ₂ Test Method	10/28/87
13.	DD, 60.300 GG, 60.330	A	Applicability dates for Grain Elevators, Stationary Gas Turbines	11/05/87
14.	Db, 60.42b, 60.45b 60.47b Appendix A Method 19	A	Add SO ₂ Standard for Industrial-Commercial- Institutional Steam Generating Units	12/16/87
15.	TTT, 60.720 to 60.726	N	Add Standard for Industrial Surface Coating- Plastic Parts for Business Machines	1/29/88
16.	Appendix A Method 25	A	Changes Flame Ionization Test Method	2/12/88
*17.	AAA, 60.530 to 539b	N	Standards for New Residential Wood Heaters	2/26/88
*18.	Appendix B, PS 6	A	Add Performance Standard for CERMS	3/09/88
*19.	BB, 60.286	A	Extension to IT Waiver for Kraft Pulp Mills	4/12/88
20.	Appendix A Method 5F	A	Add Alternative Procedure to Test Method	8/08/88
*21.	SSS, 60.710 to 718	N	Standards for Magnetic Tape Manufacturing Industry	10/03/88
22.	O, 60.153 & 60.154	A	Rule Revisions, Sewage Treatment Plants	10/06/88
23.	Appendix A, Methods 10 and 10B Appendix B, PS 4	A	Changes Test Method and CEMS's for CO	10/21/88

ATTACHMENT A

*24.	J, 60.106b	A	VOC Emissions from Petroleum Refinery Wastewater Systems	11/23/88
*25.	SSS, 60.711 to 718	A	Corrections, Magnetic Tape Industry	11/29/88
26.	F, 60.63 & 60.64	A	Rule Revisions, Portland Cement Plants	12/14/88
27.	Appendix A Methods 1A, 2C, and 2D	A	Adds New Test Methods	3/28/89

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

28.	E, 61.53 to 61.56	A	Rule Revisions to Mercury Standards	3/19/87
*29.	K, 61.123 to 126 61.07 to 13	A	Technical Amendments, Radionuclides	7/28/87
30.	A, 61.01	A	Rule Revisions, General Provisions	10/08/87
31.	61.54, 61.60, 61.64, 61.65, 61.70, 61.153, 61.245, Appendix B	A	Rule Revisions, General Provisions and Test Methods	9/23/88

* Items not being considered for adoption in Oregon because of non-applicability or appropriateness at this time.

PLAN\AR455

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(2), this statement provides information on the intended action to amend rules.

1. Legal Authority

This proposal amends Oregon Administrative Rules 340-25-450 to 340-25-805. It is proposed under authority of Oregon Revised Statutes 468.020(1) and 468.295(3) where the Environmental Quality Commission is authorized to establish different rules for different sources of air pollution.

2. Need for the Rule

The proposed changes bring the Oregon rules up-to-date with changes and additions to the federal "Standards of Performance for New Stationary Sources"; 40 CFR 60, and "National Emission Standards for Hazardous Air Pollutants", 40 CFR 61. As Oregon rules are kept up-to-date with the federal rules, then the federal Environmental Protection Agency (EPA) delegates authority to enforce their rules to the Department, allowing Oregon industry and commerce to be regulated by only one environmental agency.

3. Principal Documents Relied Upon in this Rulemaking

Title 40 Code of Federal Regulations, as amended in recent Federal Registers.

<u>40 CFR Subpart</u>	<u>New (N) or (A) Amended Rule</u>	<u>Subject of Rule Change</u>	<u>Register Date</u>
1. HH, 60.343 (b) and 60.344 (c)	A	Rule Revisions, Lime Manufacturing Plants	2/17/87
2. Appendix A, Method 18	A	Changes Gas Chromatography Test Method	2/19/87
3. A, 60.8	A	Amendments to Opacity Provisions	3/26/87
4. Ka, 60.111a to 60.114a	N	Standards For VOL Storage Vessels	4/08/87

ATTACHMENT B

5.	Kb, 60.110b to 60.117b	A	Rule Revisions-Petroleum Liquid Storage Vessels	4/08/87
6.	Appendix A, Method 15A	A	Add Test Method for Petroleum Refineries	6/01/87
7.	Appendix F Procedure 1	A	QA Requirements for Gaseous CEM's	6/04/87
8.	Appendix A, Method 10A	A	Add Test Method for Petroleum Refineries	8/17/87
9.	Appendix A Methods 16A and 16B	A	Add Test Method, Sulfur Emissions	9/29/87
10.	Appendix A Method 6	A	Changes SO ₂ Test Method	10/28/87
11.	DD, 60.300 GG, 60.330	A	Applicability dates for Grain Elevators, Stationary Gas Turbines	11/05/87
12.	Db, 60.42b, 60.45b 60.47b Appendix A Method 19	A	Add SO ₂ Standard for Industrial-Commercial- Institutional Steam Generating Units	12/16/87
13.	TTT, 60.720 to 60.726	N	Add Standard for Industrial Surface Coating- Plastic Parts for Business Machines	1/29/88
14.	Appendix A Method 25	A	Changes Flame Ionization Test Method	2/12/88
15.	Appendix A Method 5F	A	Add Alternative Procedure to Test Method	8/08/88
16.	O, 60.153 & 60.154	A	Rule Revisions, Sewage Treatment Plants	10/06/88
17.	Appendix A, Methods 10 and 10B Appendix B, PS 4	A	Changes Test Method and CEMS's for CO	10/21/88
18.	F, 60.63 & 60.64	A	Rule Revisions, Portland Cement Plants	12/14/88
19.	Appendix A Methods 1A, 2C,	A	Adds New Test Methods	3/28/89

and 2D

20.	E, 61.53 to 61.56	A-	Rule Revisions to Mercury Standards	3/19/87
21.	A, 61.01	A	Rule Revisions, General Provisions	10/08/87
22.	61.54, 61.60, 61.64, 61.65, 61.70, 61.153, 61.245, Appendix B	A	Rule Revisions, General Provisions and Test Methods	9/23/88

LAND USE COMPATIBILITY STATEMENT

The Department has concluded that the proposed rules appear to affect land use and will be consistent with Statewide Planning Goals and Guidelines.

Goal 6: (Air, Water and Land Resources Quality): The proposal is designed to improve and maintain air quality in the affected area and is therefore consistent with the goal.

Goal 11: (Public Facilities and Services): The proposal is deemed unaffected by the rules.

Public comment on any land use issue involved is welcome and may be submitted in the same manner as indicated for testimony in this notice.

FISCAL AND ECONOMIC IMPACT

These federal rules are already promulgated by EPA, therefore sources affected are already subject to the costs of control and compliance. Adoption by and delegation to DEQ simplifies environmental administration generally at less cost.

Small businesses will incur less cost and processing time if these rules are administered by only one agency.

PLAN\AR437

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

New Federal Air Quality Rules To Be Adopted as State Standards

NOTICE OF PUBLIC HEARING

Hearing Date: August 25, 1989

Comments Due: August 30, 1989

WHO IS AFFECTED: Industry which may build new, reconstruct, or modify air pollution sources in the categories listed below.

WHAT IS PROPOSED: The Department of Environmental Quality (DEQ) is proposing to amend OAR 340-25-450 to 340-25-805 to add two new and 20 modified rules already in force under the federal Environmental Protection Agency (EPA):

<u>Item</u>	<u>40 CFR Subpart</u>	<u>Industry Affected</u>
1.	HH, 60.343 (b) and 60.344 (c)	Rule Revisions, Lime Manufacturing Plants
2.	Appendix A, Method 18	Changes Gas Chromatography Test Method
3.	A, 60.8	Amendments to Opacity Provisions
4.	Ka, 60.111a to 60.114a	Standards For VOL Storage Vessels
5.	Kb, 60.110b to 60.117b	Rule Revisions-Petroleum Liquid Storage Vessels
6.	Appendix A, Method 15A	Add Test Method for Petroleum Refineries
7.	D, 60.43a	Rule Revisions, Fossil-Fuel-Fired Steam Generators
8.	Appendix A Method 10A	Add Test Method for Petroleum Refineries
9.	Appendix A Methods 16A and 16B	Add Test Method, Sulfur Emissions



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

10.	Appendix A Method 6	Changes SO ₂ Test Method
11.	DD, 60.300A GG, 60.330	Applicability dates for Grain Elevators, Stationary Gas Turbines
12.	Db, 60.42b, 60.45b 60.47b Appendix A Method 19	Add SO ₂ Standard for Industrial-Commercial- Institutional Steam Generating Units
13.	TTT, 60.720 to 60.726	Add Standard for Industrial Surface Coating- Plastic Parts for Business Machines
14.	Appendix A Method 25	Changes Flame Ionization Test Method
15.	Appendix A Method 5F	Add Alternative Procedure to Test Method
16.	O, 60.153 & 60.154	Rule Revisions, Sewage Treatment Plants
17.	Appendix A, Methods 10 and 10B Appendix B, PS 4	Changes Test Methods and CEMS's for CO
18.	F, 60.63 & 60.64	Rule Revisions, Portland Cement Plants
19.	Appendix A Methods 1A, 2C, and 2D	Adds New Test Methods
20.	E, 61.53 to 61.56	Rule Revisions to Mercury Standards
21.	A, 61.01	Rule Revisions, General Provisions
22.	61.54, 61.60, 61.64, 61.65, 61.70, 61.153, 61.245, Appendix B	Rule Revisions, General Provisions and Test Methods

ATTACHMENT C

WHAT ARE THE HIGHLIGHTS: The Department proposes to adopt these federal rules and to request EPA to delegate authority to enforce over those sources in Oregon to DEQ. This is considered a routine rulemaking action, since the sources must abide by an identical federal rule, already in force.

HOW TO COMMENT: Copies of the complete proposed rule package may be obtained from the Air Quality Division in Portland, 811 S.W. Sixth Avenue, or the regional office nearest you. For further information contact Brian Finneran at (503) 229-6278.

A public hearing will be held before a hearings officer at:

10 A.M.
Friday, August 25, 1989
Room 4a, 4th floor, Executive Building
811 S.W. 6th, Portland, OR 97204

Oral and written comments will be accepted at the public hearing. Written comments may be sent to the DEQ, but must be received by no later than _____.

WHAT IS THE NEXT STEP: After public hearing, the Environmental Quality Commission may adopt rule amendments identical to the proposed amendments, adopt modified rule amendments on the same subject matter, or decline to act. The adopted rules will be submitted to the U.S. Environmental Protection Agency for delegation. The Commission's deliberation should come on _____ as part of the agenda of a regularly scheduled Commission meeting.

A Statement of Need, Fiscal and Economic Impact Statement, and Land Use Consistency Statement are attached to this notice.

PLAN\AR438

PROPOSED RULE REVISIONS

**Emission Standards and Procedural
Requirements for Hazardous Air Contaminants**

General Provisions

OAR 340-25-460

(1) Applicability. The provisions of these rules shall apply to any source which emits air contaminants for which a hazardous air contaminant standard is prescribed. Compliance with the provisions of these rules shall not relieve the source from compliance with other applicable rules of the Oregon Administrative Rules, Chapter 340, or with applicable provisions of the Oregon Clean Air Act Implementation Plan.

(2) Prohibited activities:

(a) No person shall operate any source of emissions subject to these rules without first registering such source with the Department following procedures established by ORS 468.320 and OAR 340-20-005 through 340-20-015. Such registration shall be accomplished within ninety (90) days following the effective date of these rules.

(b) After the effective date of these rules, no person shall construct a new source or modify any existing source so as to cause or increase emissions of contaminants subject to these rules without first obtaining written approval from the Department.

(c) No person subject to the provisions of these emission standards shall fail to provide reports or report revisions as required in these rules.

(3) Application for approval of construction or modification. All applications for construction or modification shall comply with the requirements of rules 340-20-020 through 340-20-030 and the requirements of the standards set forth in these rules.

(4) Notification of startup. Notwithstanding the requirements of rules 340-20-020 through 340-20-030, any person owning or operating a new source of emissions subject to these emission standards shall furnish the Department written notification as follows:

(a) Notification of the anticipated date of startup of the source not more than sixty (60) days nor less than thirty (30) days prior to the anticipated date.

(b) Notification of the actual startup date of the source within fifteen (15) days after the actual date.

(5) Source reporting and approval request. Any person operating any existing source, or any new source for which a standard is prescribed in these rules which had an initial startup which preceded the effective date of these rules shall provide the following information to the Department within ninety (90) days of the effective date of these rules:

- (a) Name and address of the owner or operator.
- (b) Location of the source.
- (c) A brief description of the source, including nature, size, design, method of operations, design capacity, and identification of emission points of hazardous contaminants.
- (d) The average weight per month of materials being processed by the source and percentage by weight of hazardous contaminants contained in the processed materials, including yearly information as available.
- (e) A description of existing control equipment for each emission point, including primary and secondary control devices and estimated control efficiency of each control device.

(6) Source emission tests and ambient air monitoring.

(a) Emission tests and monitoring shall be conducted using methods set forth in 40 CFR, Part 61, Appendix B, as published in the Code of Federal Regulations last amended by the Federal Register, [November 7, 1985, pages 46290 to 46295] November 21, 1988, page 46976. The methods described in 40 CFR, Part 61, Appendix B, are adopted by reference and made a part of these rules. Copies of these methods are on file at the Department of Environmental Quality.

(b) At the request of the Department, any source subject to standards set forth in these rules may be required to provide emission testing facilities as follows:

(A) Sampling ports, safe sampling platforms, and access to sampling platforms adequate for test methods applicable to such source.

(B) Utilities for sampling and testing equipment.

(c) Emission tests may be deferred if the Department determines that the source is meeting the standard as proposed in these rules. If such a deferral of emission tests is requested, information supporting the request shall be submitted with the request for written approval of operation. Approval of deferral of emission tests shall not in any way prohibit the Department from canceling the deferral if further information indicates that such testing may be necessary to insure compliance with these rules.

(7) Delegation of authority. The commission may, when any regional authority requests and provides evidence demonstrating its capability to carry out the provisions of these rules relating to hazardous contaminants, authorize and confer jurisdiction within its boundary until such authority and jurisdiction shall be withdrawn for cause by the Commission.

Emission Standard For Mercury

OAR 340-25-480

(1) Applicability. The provisions of this rule are applicable to sources which process mercury ore to recover mercury, sources using mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and to any

other source, the operation of which results or may result in the emission of mercury to the ambient air.

(2) Emission Standard. No person shall cause to be discharged into the atmosphere emissions from any source exceeding 2,300 grams of mercury during any 24 hour period, except that mercury emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3200 grams of mercury per 24 hour period.

(3) Stack sampling:

(a) Mercury ore processing facility:

(A) Unless a deferral of emission testing is obtained under subsection 340-25-460(6)(c) of these rules, each person operating source processing mercury ore shall test emissions from his source, subject to the following:

(i) Within ninety (90) days of the effective date of these rules for existing sources or for new sources having startup dates prior to the effective date of this standard.

(ii) Within ninety (90) days of startup in the case of a new source having a startup date after the effective date of this standard.

(B) The Department shall be notified at least thirty (30) days prior to an emission test so that they may, at their option, observe the test.

(C) Samples shall be taken over such periods and frequencies as necessary to determine the maximum emissions occurring during any 24 hour period. Calculations of maximum 24 hour emissions shall be based on that combination of process operating hours and any variation in capacities or processes that will result in maximum emissions. No changes in operation which may be expected to increase total emissions over those determined by the most recent stack test shall be made until estimates of the increased emissions have been calculated, and have been reported to and approved in writing by the Department.

(D) All samples shall be analyzed and mercury emissions shall be determined and reported to the Department within thirty (30) days following the stack test. Records of emission test results and other data needed to determine mercury emissions shall be retained at the source and made available for inspection by the Department for a minimum of two (2) years following such determination.

(b) Mercury Chlor-alkali plant:

(A) Hydrogen and end-box ventilation gas streams. Unless a deferral of emission testing is obtained under subsection 340-25-460(6)(c), each person operating a source of this type shall test emissions from his source following the provisions of subsection (3)(a) of this rule.

(B) Room ventilation system:

(i) Unless a deferral of emission testing is obtained under subsection 340-25-460(6)(c), all persons operating mercury chlor-alkali plants shall pass all cell room air in forced gas streams through stacks suitable for testing.

(ii) emissions from cell rooms may be tested in accordance with provisions of paragraph (3)(b)(a) of this rule or may demonstrate compliance with paragraph (3)(b)(B)(iii) of this rule and assume ventilation emissions of 1,300 grams/day of mercury.

(iii) If no deferral of emission testing is requested, each person testing emissions shall follow the provisions of subsection (3)(a) of this rule.

(c) Any person operating a mercury chlor-alkali plant may elect to comply with room ventilation sampling requirements by carrying out approved design, maintenance, and housekeeping practices. A summary of these approved practices shall be available from the Department.

(d) Stack sampling and sludge sampling at wastewater treatment plants shall be performed in accordance with 40 CFR 61.53(d) or 40 CFR 61.54, last amended by Federal Register [November 7, 1985, pages 46290 to 46295] on March 19, 1987, pages 8724 to 8728.

Standards of Performance for New Stationary Sources

Definitions

OAR 340-25-510

- (1) "Administrator" herein and in Title 40, Code of Federal Regulations, Part 60, means the Director of the Department or appropriate regional authority.
- (2) "Federal Regulation" means Title 40, Code of Federal Regulations, Part 60, as promulgated prior to [January 15, 1987] March 29, 1989.
- (3) "CFR" means Code of Federal Regulations.
- (4) "Regional authority" means a regional air quality control authority established under provisions of ORS 468.505.

General Provisions

OAR 340-25-530

Title 40, CFR, Part 60, Subpart A, as promulgated prior to [January 15, 1987] March 29, 1989, is by this reference adopted and incorporated herein. Subpart A includes paragraphs 60.1 to 60.18 which address, among other things, definitions, performance tests, monitoring requirements, and modifications.

Performance Standards

Federal Regulations Adopted by Reference

OAR 340-25-535

Title 40, CFR, Parts 60.40 through 60.154, and 60.250 through 60.648, and 60.680 through 60.685, as established as final rules prior to [January 15, 1987] March 29, 1989, is by this reference adopted and incorporated herein, with the exception of the December 27, 1985 federal register revision to 40 CFR 60.11(b). As of [January 15, 1987] March 29, 1989, the Federal Regulations adopted by reference set the emission standards for the new stationary source categories set out in rules 340-25-550 through [340-25-715] 340-25-725 (these are summarized for easy screening, but testing conditions, the actual standards, and other details will be found in the Code of Federal Regulations).

Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

OAR 340-25-553

The pertinent federal rules are 40 CFR 60.40b to 60.49b, also known as Subpart Db. The following emission standards, summarizing the federal standard set forth in Subpart Db, apply to each steam generating unit of more than 29 MW (100 million BTU/hr) heat input capacity, which commenced construction, modification, or reconstruction after June 19, 1984:

(1) Standards for Particulate Matter. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:

(a) Contain particulate matter in excess of 22 to 86 nanograms per joule (0.05 to 0.20 lb/million BTU) heat input from firing the fuels as specified in 40 CFR 60.43b.

(b) Exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(2) Standards for Nitrogen Oxides. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides in excess of 43 to 340 nanograms per joule (0.10 to 0.80 lb/million BTU) heat input, as specified in table in 40 CFR 60.44b(a).

(3) Standards for Sulfur Dioxide. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of the amounts specified in 40 CFR 60.42b:

(a) 10 to 50 percent of the potential sulfur dioxide emission rate;

(b) 520 nanograms per joule (1.2 lb/million BTU) of heat input;

(c) amount determined according to the formula in 40 CFR 60.42b.

Standards of Performance for Portland Cement Plants
OAR 340-25-560

The pertinent federal rules are 40 CFR 60.60 to [60.64] 60.65, also known as Subpart F. The following emission standards, summarizing the federal standards set forth in Subpart F, shall apply to each Portland cement plant:

- (1) Standards for Particulate Matter from Kiln. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any kiln any gases which:
 - (a) Contain particulate matter in excess of 0.15 Kg. per metric ton (0.30 lb. per ton) of feed (dry basis) to the kiln.
 - (b) Exhibit greater than 20 percent opacity.

- (2) Standards for Particulate Matter from Clinker Cooler. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any clinker cooler any gasses which:
 - (a) Contain particulate matter in excess of 0.050 Kg. per metric ton (0.10 lb. per ton) of feed (dry basis) to the kiln.
 - (b) Exhibit 10 percent opacity or greater.

- (3) Standards for Particulate Matter for Other Facilities. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility other than the kiln and clinker cooler any gases which exhibit 10 percent opacity or greater.

Standards of Performance for Volatile Organic Liquid Storage Vessels
OAR 340-25-587

The pertinent federal rules are 40 CFR 60.110b to 60.116b, also known as Subpart Kb. The following requirements, summarizing the federal requirements set forth in Subpart Kb, apply to each storage vessel for volatile organic liquids (VOL's) which has a storage capacity greater than or equal to 40 cubic meters (m³), for which construction, reconstruction, or modification is commenced after July 23, 1984. "Volatile organic liquid" (VOL) means any organic liquid which can emit volatile organic compounds into the atmosphere. These compounds are identified in EPA statements on ozone abatement policy for SIP revisions (42 FR 35314, 44 FR 32042, 45 FR 32424, and 45 FR 48941). Each storage vessel with a design capacity greater than or equal to 40 m³ and less than 75 m³ shall have readily accessible records showing the dimension of the vessel and an analysis showing the capacity of the vessel. The owner or operator of any storage vessel to which this section applies shall store a VOL as follows:

(1) If the storage capacity is greater than or equal to 151 m³ and the true vapor pressure of the VOL as stored is equal to or greater than 5.2 kPa but less than 76.6 kPa, or the storage capacity is greater than or equal to 75 m³ but less than 151 m³ and the true vapor pressure is equal to or greater than 27.6 kPa but less than 76.6 kPa, the storage vessel shall be equipped with either a fixed-internal roof combination, an external floating roof, closed vent system and control devise, or an equivalent.

(2) If the storage capacity is greater than or equal to 75 m³ and the true vapor pressure of the VOL as stored is greater than or equal to 76.6 kPa, the storage vessel shall be equipped with either a closed vent system and control devise, or an equivalent.

Standards of Performance for Gas Turbines OAR 340-25-645

The pertinent federal rules are 40 CFR 60.330 to 60.335, also known as Subpart GG. The following emission standards, summarizing the federal standards set forth in Subpart GG, apply to any stationary gas turbine with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (1,000 HP) for which construction, modification, or reconstruction was commenced after October 3, 1977:

(1) Standard for Nitrogen Oxides. No owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any stationary gas turbine, nitrogen oxides in excess of the rates specified in 40 CFR 60.332.

(2) Standard for Sulfur Dioxide. Owners or operators shall:

(a) Not cause to be discharged into the atmosphere from any gas turbine any gases which contain sulfur dioxide in excess of 150 ppm by volume at 15 percent oxygen, on a dry basis; or

(b) Not burn in any gas turbine any fuel which contains sulfur in excess of 0.80 percent by weight.

Standards of Performance for Surface Coating of Plastic Parts for Business Machines

OAR 340-25-725

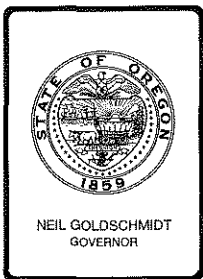
The pertinent federal rules are 40 CFR 60.720 to 60.725, also known as Subpart TTT. The following emission standard, summarizing the federal standard set forth in Subpart TTT, applies to each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats. The standard applies to any affected facility which commenced construction, modification, or reconstruction after January 8, 1986.

Standards for Volatile Organic Compounds: No owner or operator shall cause to be discharged into the atmosphere Volatile Organic Compounds (VOC) that exceed the following:

(1) 1.5 kilograms of VOC per liter of coating solids applied from prime coating and color coating;

(2) 2.3 kilograms of VOC per liter of coating solids applied from texture coating and touch-up coating.

PLAN\AR470



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: 7/21/89
Agenda Item: G
Division: HSW
Section: SW

SUBJECT:

Waste Tire Rules -- Addition of Provisions Relating to Denial of Waste Tire Carrier Permits

PURPOSE:

Establish criteria to be applied by the Department of Environmental Quality (DEQ or Department) when denying an application for a waste tire carrier permit; establish criteria for suspension, revocation or refusal to renew a waste tire storage site permit or waste tire carrier permit; add criteria for denial of waste tire storage site permit.

ACTION REQUESTED:

- Work Session Discussion
 General Program Background
 Potential Strategy, Policy, or Rules
 Agenda Item ___ for Current Meeting
 Other: (specify)
- Authorize Rulemaking Hearing
 Adopt Rules
 Proposed Rules Attachment A
 Rulemaking Statements Attachment B
 Fiscal and Economic Impact Statement Attachment C
 Public Notice Attachment D
- Issue a Contested Case Order
 Approve a Stipulated Order
 Enter an Order
 Proposed Order Attachment ___
- Approve Department Recommendation
 Variance Request Attachment ___
 Exception to Rule Attachment ___
 Informational Report Attachment ___

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

Applications for waste tire carrier permits may be denied if applicants do not comply with Department rules. Thus, an applicant who is or was storing waste tires illegally could be denied a waste tire carrier permit.

A permittee's site or carrier permit may be revoked if the permittee does not maintain financial assurance. Maintaining financial assurance is a statutory requirement.

On June 2, 1989, the Waste Tire Advisory Committee reviewed a preliminary draft of the rule revisions and made some suggestions. They were not asked to make a formal recommendation.

PROGRAM CONSIDERATIONS:

The Department Hearings Officer recently supported a denial of a waste tire carrier permit, in the absence of specific denial criteria in the rule. While the Hearings Officer ruled that the Department had sufficient grounds to deny the permit in question based on general statutory authority, she indicated that a rule needs to be adopted to clarify grounds on which denial of a carrier permit may be based.

The present rule also lacks criteria for revoking waste tire storage site permits and carrier permits. These criteria need to be established.

Similar rules exist for permit denials and revocations in most programs. Criteria for storage permit denial are included in the waste tire storage site permit rules, but one additional criterion is being added for consistency with the proposed carrier permit denial criteria.

These rule additions are needed in order to properly administer the waste tire permitting program, providing the rationale for the Department to deny or revoke permits when warranted.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

1. Request authorization of a public hearing to consider the proposed rule modifications.

This action would allow the Department to accept public comment on the proposed rule, and then proceed to rule adoption in a timely manner.

2. Request adoption of the proposed rule as an emergency rule.

This action would give the Department an immediate rule with which to work. However, no permit denials or revocations are now pending, so no emergency exists.

3. Change the law.

This is not practical. Rulemaking is the appropriate way to handle the need.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends approval of Alternative 1, authorization for the Department to hold a public hearing on the proposed rule revision.

The recommendation provides the public an opportunity to comment, and allows the Department to analyze public suggestions.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rule is consistent with similar rules in other programs, and will carry out legislative intent to regulate the transportation and storage of waste tires.

ISSUES FOR COMMISSION TO RESOLVE:

None.

INTENDED FOLLOWUP ACTIONS:

- a. Publication of intent to hold a hearing in the Secretary of State's Bulletin on August 15, 1989, and publication of notice of public hearing in newspapers.
- b. Hold hearing on August 31, 1989, in Portland, OR.
- c. Receive public comment until September 6, 1989.

Meeting Date: 7/21/89
Agenda Item: G
Page 5

- d. Prepare a hearing officer's report for final rule adoption by the Commission on October 20, 1989.

Approved:

Section: Deanna Mueller-Crispin
Division: Stephanie Hallock
Director: Rydia Taylor

Report Prepared By: Deanna Mueller-Crispin

Phone: 229-5808

Date Prepared: July 5, 1989

dmc:typ
carrule.egc
7/5/89

Proposed Revisions

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
ADMINISTRATIVE RULES
DIVISION 62 - WASTE TIRES

WASTE TIRE PERMITS
7/3/89

Proposed additions to rule are underlined.
Proposed deletions are in brackets [].

Department Review of Applications for Waste Tire Storage Sites

340-62-030 (1) Applications for waste tire storage permits shall be processed in accordance with the Procedures for Issuance, Denial, Modification and Revocation of Permits as set forth in OAR Chapter 340, Division 14, except as otherwise provided in OAR Chapter 340, Division 62.

(2) Applications for permits shall be complete only if they:

(a) Are submitted on forms provided by the Department, accompanied by all required exhibits, and the forms are completed in full and are signed by the applicant and the property owner or person in control of the premises;

(b) Include plans and specifications as required by OAR 340-62-018 and 340-62-020;

(c) Include the appropriate application fee pursuant to OAR 340-62-020(1)(c).

(3) An application may be accepted as complete for processing if all required materials have been received with the exception of the financial assurance required under OAR 340-62-020(1)(b) and 340-62-022, and the written statement of compatibility of the proposed site with the acknowledged local comprehensive plan and zoning requirements from the local government unit(s) having jurisdiction. However, the Department shall not issue a "second-stage" waste tire storage permit unless required financial assurance and land use compatibility have been received.

(4) Following the submittal of a complete waste tire storage permit application, the Director shall cause notice to be given in the county where the proposed site is located in a manner reasonably calculated to notify interested and affected persons of the permit application.

(5) The notice shall contain information regarding the location of the site and the type and amount of waste tires intended for storage at the site. In addition, the notice shall give any person substantially affected by the proposed site an opportunity to comment on the permit application.

(6) The Department may conduct a public hearing in the county where a proposed waste tire storage site is located.

(7) Upon receipt of a completed application, the Department may deny the permit if:

(a) The application contains a material misrepresentation or false information[.]; or

(b) The application was wrongfully accepted by the Department[.]; or

(c) The proposed waste tire storage site would not comply with these rules or other applicable rules of the Department[.]; or

(d) The applicant has not complied with these rules or other applicable rules of the Department or pertinent rules of other governmental agencies; or

~~[(d)]~~ (e) There is no clearly demonstrated need for the proposed new, modified or expanded waste tire storage site.

(8) Based on the Department's review of the waste tire storage [site] application, and any public comments received by the Department, the Director shall issue or deny the permit. The director's decision shall be subject to appeal to the Commission and judicial review under ORS 183.310 to 183.550.

Department Review of Waste Tire Carrier Permit Applications

340-62-070 (1) Applications for waste tire carrier permits shall be processed in accordance with the Procedures for Issuance, Denial, Modification and Revocation of Permits as set forth in OAR Chapter 340, Division 14, except as otherwise provided in OAR Chapter 340, Division 62.

(2) Applications for waste tire carrier permits shall be complete only if they:

(a) Are submitted on forms provided by the Department, accompanied by all required exhibits, and the forms are completed in full and are signed by the applicant(s);

(b) Include the appropriate application fee pursuant to OAR 340-62-055 and 340-62-063; and

(c) Include acceptable financial assurance pursuant to OAR 340-62-055.

(3) Upon receipt of a completed application, the Department may deny the permit if:

(a) The application contains a material misrepresentation or false statement; or

(b) The application was wrongfully accepted by the Department; or

(c) The applicant has not complied with these rules or other applicable rules of the Department or pertinent rules of other governmental agencies.

(4) Based on the Department's review of the waste tire carrier application, the Director shall issue or deny the permit. The Director's decision shall be subject to appeal to the Commission and judicial review under ORS 183.310 to 183.550.

Permit Suspension or Revocation

340-62-075 (1) The Department may suspend, revoke or refuse to renew any permit issued under OAR 340-62-005 through 340-62-070 if it finds:

(a) Failure to comply with any conditions of the permit, provisions of ORS 459.710 through 459.780, the rules of the Environmental Quality Commission or an order of the Commission or Department; or

(b) Failure to maintain in effect at all times the required bond or other approved equivalent financial assurance in the amount specified in ORS 459.720 and ORS 459.730 or in the permit;

(c) The permit was obtained by misrepresentation or failure to disclose fully all relevant facts;

(d) A significant change in the quantity or character of waste tires received or in the method of waste tire storage site operation; or

(e) Failure to timely remit the annual compliance fee, or nonpayment by drawee of any instrument tendered by applicant as payment of the permit fee.

(2) Suspension or revocation of a permit shall be processed in accordance with the Procedures for Issuance, Denial,

Modification and Revocation of Permits as set forth in OAR 340-14-045, except as otherwise provided in OAR Chapter 340, Division 62.

carrule.rev
7/3/89

RULEMAKING STATEMENTS
for
Proposed New Rule and Revisions to Existing Rule
Pertaining to Storage and Hauling of Waste Tires

OAR Chapter 340, Division 62

Pursuant to ORS 183.335, these statements provide information on the intended action to adopt a rule.

STATEMENT OF NEED:

Legal Authority

The 1987 Oregon Legislature passed the Waste Tire Act regulating the disposal, storage and transportation of waste tires. ORS 459.785 requires the Commission to adopt rules and regulations necessary to carry out the provisions of ORS 459.705 to 459.790. The Commission is adopting a new rule and revisions to an existing rule which are necessary to carry out the provisions of the Waste Tire Act.

Need for the Rule

Improper storage, disposal and hauling of waste tires represents a significant problem throughout the State. The Waste Tire Act establishes a comprehensive program to regulate the disposal, storage and transportation of waste tires. The new rule and the rule revision are needed to adopt criteria needed in administering the permitting parts of the program.

Principal Documents Relied Upon

- a. Oregon Revised Statutes, Chapter 459.
- b. Oregon Administrative Rules, Chapter 340, Division 62.

LAND USE CONSISTENCY STATEMENT:

The proposed rules appear to affect land use to a minimum extent, and appear to be consistent with Statewide Planning Goals and Guidelines.

With regard to Goal 6 (Air, Water and Land Resources Quality), the rules pertain to issuing permits for proper storage and transportation of waste tires. The rules establish criteria for denial of an application for a waste tire carrier or storage site permit, and for revocation of a waste tire storage site permit or waste tire carrier permit. One of the grounds for denial or revocation is non-compliance with the Department's waste tire

storage site rules. This is another tool for the Department to use in promoting proper storage of waste tires.

The rules do not appear to conflict with other Goals.

Public comment on any land use issue involved is welcome and may be submitted in the manner described in the accompanying NOTICE OF PUBLIC HEARING.

It is requested that local, state and federal agencies review the proposed action and comment on possible conflicts with their programs affecting land use and with Statewide planning goals within their expertise and jurisdiction.

The Department of Environmental Quality intends to ask the Department of Land Conservation and Development to mediate any apparent conflicts brought to our attention by local, state or federal authorities.

ecfsstm

FISCAL AND ECONOMIC IMPACT STATEMENT

I. Introduction

The statute (ORS 459.745) requires the Director to issue or deny an application for a waste tire carrier permit or a waste tire storage permit based on the Department's review of the application. The new rule and the rule revisions establish criteria for denial of waste tire carrier permit applications, and for revocation of storage and carrier permits. The existing rule already has criteria for denial of a waste tire storage site application, but one criterion is added for consistency with the proposed new rule. The criteria mainly require that a permittee or applicant comply with existing waste tire statutes and rules.

II. General Public

The general public may use waste tire carriers to remove their waste tires for proper disposal. The public may also deliver their own waste tires to permitted waste tire storage sites. A permitted waste tire carrier will likely charge between \$.75 and \$1.00 to pick up and properly dispose of waste passenger tires. In the past, "tire jockeys" have been willing to accept tires for less, perhaps \$.25 each, but proper disposal was not assured. A waste tire storage site permitted by DEQ will likely charge around \$.65 per passenger tire for proper disposal. The public may have been able in the past to dispose of tires in illegal tire piles for half that amount.

However, these changes in waste tire disposal costs are not brought about by the present rule, but rather by the Waste Tire Act of 1987 which attempts to eliminate illegal disposal. The present rule has no financial impact on the general public beyond the impact of the waste tire statute itself; the rule is another tool for the Department to enforce the statute.

III. Small Business

Many small businesses, such as retail tire dealers, must arrange for disposal of waste tires generated by their business. The same comments apply to them as to the general public under II above.

Many, if not most, waste tire carriers are small businesses. This proposed rule revision does not impose any additional financial burden on them beyond the statute and existing rule. It simply clarifies that they must operate within the statute and program

rules in order to be issued and retain a waste tire carrier permit.

IV. Large Business

Some large businesses must dispose of waste tires. This rule would have the same impact on them as on small businesses with tires to dispose of.

V. Local Governments

Some local governments generate waste tires which they have to dispose of. The rule would have the same impact on them as on the general public.

VI. State Agencies

A few state agencies may need to dispose of waste tires. This rule would have the same impact on them as on the general public. Otherwise, the Department is the only agency impacted. Permit review processes are handled by existing Department staff. The Proposed rule will have no appreciable fiscal impact on the Department.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

**Proposed Rules Related to Denying and Revoking
Waste Tire Carrier and Storage Site Permits**

Hearing Date: 8/31/89

Comments Due: 9/6/89

**WHO IS
AFFECTED:**

Applicants for waste tire carrier permits. Permitted waste tire carriers and waste tire storage site operators. The public who dispose of waste tires.

**WHAT IS
PROPOSED:**

The Department proposes to revise existing administrative rule OAR 340-62-070 governing review of waste tire carrier permit applications, and OAR 340-62-030, regulating review of waste tire storage applications. The Department also proposes to adopt a new administrative rule, OAR 340-62-075, governing revocation of waste tire carrier and waste tire storage site permits.

**WHAT ARE THE
HIGHLIGHTS:**

The rule revision would add criteria for denial of applications for waste tire carrier permits and one additional criterion for denial of waste tire storage site applications. The new rule would establish criteria for revocation and suspension of waste tire carrier and waste tire storage site permits. In general, failure to comply with applicable Department statutes or rules would be grounds for denial or revocation of a permit.

**HOW TO
COMMENT:**

A public hearing will be held before a hearings officer at:

7:00 - 8:30 p.m.
Thursday, August 31, 1989
Old Shriners Hospital Building
Board Room
8200 N.E. Sandy Boulevard
Portland, OR

Written or oral comments may be presented at the hearing. Written comments may also be sent to the Department of Environmental Quality, Waste Tire Program, Hazardous and Solid Waste Division, 811 S.W. 6th Avenue, Portland, OR 97204, and must be received no later than 5:00 p.m., Wednesday, September 6, 1989.

(over)



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

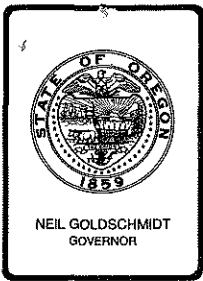
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Copies of the complete proposed rule package may be obtained from the DEQ Hazardous and Solid Waste Division. For further information, contact Deanna Mueller-Crispin at 229-5808, or toll-free at 1-800-452-4011.

**WHAT IS THE
NEXT STEP:**

The Environmental Quality Commission may adopt new rules identical to the ones proposed, adopt modified rules as a result of testimony received, or may decline to adopt rules. The Commission will consider the proposed new rule and rule revisions at its meeting on October 20, 1989.

SB8635



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: H
Division: Environmental Cleanup
Section: UST Cleanup

SUBJECT:

Soil cleanup levels for motor fuel and heating oil.

PURPOSE:

To augment previously-adopted petroleum cleanup rules with rules aimed at facilitating the cleanup of minor releases of motor fuel and heating oil in soils while maintaining a high degree of protection of public health, safety, welfare and the environment.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)
- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Public Notice Attachment D
- Issue a Contested Case Order
- Approve a Stipulated Order
- Enter an Order
 - Proposed Order Attachment ___
- Approve Department Recommendation
 - ___ Variance Request Attachment ___
 - ___ Exception to Rule Attachment ___
 - ___ Informational Report Attachment ___
 - ___ Other: (specify) Attachment ___



Environmental Quality Commission

811 SW SIXTH AVENUE, PORTLAND, OR 97204 PHONE (503) 229-5696

REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: H
Division: Environmental Cleanup
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SUBJECT:

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 - Informational Report Attachment ___
 - Other: (specify) Attachment ___

DESCRIPTION OF REQUESTED ACTION:

The proposed rules contain the following elements:

- Definitions of terms;
- A choice of cleaning up a site to the most stringent level without evaluation, or evaluating the site to determine a site-specific cleanup level;
- A matrix of numeric soil cleanup standards for motor fuel and heating oil;
- A process for evaluating the required cleanup levels;
- Specific requirements for
 - the number of samples at a given site,
 - where the samples should be collected,
 - how the samples should be collected,
 - how the samples should be analyzed, and
 - how the data should be interpreted; and
- What information needs to be reported to the Department and how the Department must respond to this information.

Amendments to existing rules are also proposed to provide consistency between the proposed cleanup rules and the existing tank decommissioning rules.

AUTHORITY/NEED FOR ACTION:

<input type="checkbox"/> Required by Statute: _____	Attachment _____
Enactment Date: _____	
<input checked="" type="checkbox"/> Statutory Authority: <u>ORS 466.540 to 590</u>	
<u>and ORS 466.705 to 835 and 895</u>	Attachment <u>E</u>
<input checked="" type="checkbox"/> Pursuant to Rule: <u>OAR 340-122-201 to 260</u>	Attachment <u>F</u>
<input type="checkbox"/> Pursuant to Federal Law/Rule: _____	Attachment _____
<input type="checkbox"/> Other: _____	Attachment _____
<input type="checkbox"/> Time Constraints: (explain)	

Meeting Date: 7/21/89
Agenda Item: H
Page 3

DEVELOPMENTAL BACKGROUND:

<input checked="" type="checkbox"/> Advisory Committee Report/Recommendation	Attachment <u>G</u>
<input checked="" type="checkbox"/> Hearing Officer's Report/Recommendations	Attachment <u>H</u>
<input checked="" type="checkbox"/> Response to Testimony/Comments	Attachment <u>I</u>
<input type="checkbox"/> Prior EQC Agenda Items: (list)	
Agenda Item G, 4-14-89 EQC Meeting	
<input type="checkbox"/> Other Related Reports/Rules/Statutes:	Attachment <u> </u>
<input checked="" type="checkbox"/> Supplemental Background Information	Attachment <u>J</u>

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

The current Cleanup Rules for Leaking Petroleum UST Systems (OAR 340-122-201 through 340-122-260) provide the framework for addressing the remediation of petroleum releases. However, in many cases where the size of a release is small and there does not appear to be a significant threat to the environment, completing a cleanup by means of the current rules may result in unnecessary added costs and delays. This would be an increased burden on the regulated community without really providing increased protection to the public health, safety, welfare and the environment.

The proposed rules establish numeric soil cleanup standards for simple soil cleanups which are based on site-specific parameters. As such, they allow the regulated community to move forward quickly and efficiently with the cleanup of minor petroleum releases.

PROGRAM CONSIDERATIONS:

The numeric soil cleanup rules allow the regulated community to proceed on simple cleanups with a minimum amount of Departmental oversight. This is an important component of the Department's strategy for cleaning up the large number of currently known as well as projected future petroleum-contaminated sites. The rules will free up limited staff time so that the Department can focus its attention on the more complex and environment-threatening petroleum releases.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

The public comment was very much in favor of the approach being taken by the Department in the development of the proposed rules. The three main concerns of those testifying were that the proposed matrix scoring scheme would place all sites west of the Cascades into the most stringent cleanup level; that all of the cleanup levels were too stringent and would therefore be too expensive; and that due to both high background and poor detection limits, the proposed analytical method (Method 418.1) was not sensitive enough to be used to measure total petroleum hydrocarbons (TPH) at such low cleanup levels.

After reviewing the public comment, the Department considered four possible alternatives:

1. Make no major changes in the proposed rules.

The Department would retain the proposed matrix scoring system, the proposed cleanup levels, and Method 418.1 as the required analytical method for TPH.

2. Retain Method 418.1, but increase the proposed cleanup levels for gasoline to compensate for some of the problems associated with the method.

Method 418.1 is apparently prone to some interferences which result in higher reported values of TPH. In this alternative the Department would compensate for this by increasing the lowest required cleanup levels where this problem tends to be the most critical.

3. Retain the proposed cleanup levels, but require an alternative analytical technique for TPH.

Due to concerns about difficulties with Method 418.1, in this alternative the Department would require an alternative analytical method which would not be prone to these difficulties. Such a method would have to be standardized, readily available to commercial labs, and appropriate for the analysis of gasoline contamination.

4. Allow less stringent TPH levels for gasoline contamination, but add a requirement for BTEX analysis in these cases.

The main contaminants of concern in gasoline are benzene, toluene, ethylbenzene and xylenes (BTEX). In

this alternative the Department would allow higher levels of TPH contamination at a gasoline spill as long as the levels of BTEX were below acceptable levels. This would require the Department to establish soil cleanup levels for these compounds.

The Department has thoroughly investigated the question of the matrix scoring scheme and has found it to work as designed. Therefore, the Department has not considered any alternatives that involve modifying that section of the rules.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

The Department recommends Alternative 2.

The Department feels that the originally proposed soil cleanup values are both necessary and attainable. However, it agrees that there are some problems with Method 418.1. Ideally, the best approach would then be Alternative 3. Unfortunately, there is no currently available, standardized alternative method for analyzing for TPH as gasoline. Although that problem is being looked into by EPA (see Attachment I, page I-10), the Department does not feel that it is in the best interest of the State to delay adoption of these rules by a year or more until further information is available.

For the reasons stated above, the Department recommends that the Commission adopt the proposed rules as revised according to Alternative 2. This revision includes a 30 ppm increase in the originally proposed cleanup values for all three gasoline levels. This increase has been introduced to maintain the protection of the originally proposed cleanup levels while allowing for the previously mentioned difficulties with Method 418.1 (see Attachment I, pages I-11 to I-13).

The Department requests that these rules be adopted with the following stipulations:

1. That the Department carefully review the effectiveness of these cleanup levels and return to the Commission at the end of 15 months to report on how well these levels appear to be working;
2. That if better and more appropriate standardized methods for analyzing gasoline contamination are available, the

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Department may request adoption of these methods to replace Method 418.1; and

3. That request for adoption of better analytical methods may be accompanied by a request to change the gasoline cleanup levels in recognition of the fact that a new method may yield different results than Method 418.1.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The development of these rules is consistent with the legislative policy, as stated in ORS 466.705 through 466.835, of adopting a state-wide program 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.

It is also stated in OAR 340-122-245 (1988) that these rules shall be developed.

ISSUES FOR COMMISSION TO RESOLVE:

One of the most troubling aspects of the development of the proposed rules has been EPA's failure to take the lead in providing guidance to the states with respect to soil cleanup levels or appropriate analytical techniques for petroleum hydrocarbon contamination. Despite this fact, the Department has developed numeric soil cleanup levels for motor fuel and heating oil which it believes are necessary for the protection of health, safety, welfare and the environment.

The proposed cleanup levels are based on many different factors and on information gathered from a wide variety of sources. Some of these are:

- The concentration of benzene (a known carcinogen) in various petroleum products,
- The solubility of benzene in water,
- The maximum contaminant level allowed by EPA for benzene in drinking water,
- The leachability of contaminants from soils into groundwater as reported in background documents developed for the Resource Conservation and Recovery Act (RCRA),

- The results of published computer modeling studies which were done to simulate contamination from petroleum products,
- Information from DEQ Regional staff regarding attainable cleanup levels under the odor and sheen guidelines, and
- Information from personnel in other states who have been or are currently working on the development of their own cleanup guidelines.

After having gathered and studied this information, and developing rules based on this information, questions and differences of opinion still remain (see Attachment I). There is disagreement between the cleanup levels in the proposed rules and those being advocated by the Oregon Petroleum Marketers Association and the Oil Heat Institute. There is concern that high "background" levels of TPH may make the lower cleanup levels unattainable. There are questions about the ability of Method 418.1 to adequately measure the extent of contamination.

Because of these questions, there are a number of issues that the Commission must resolve:

1. Should the rules be adopted as per the Department's recommendation, or should adoption be delayed until the Department can resolve the analytical methods issue?
2. Should the rules be adopted as proposed with the Department's cleanup levels or should the Commission require the Department to adopt other cleanup levels?
3. Should there be a mandated review in 15 months to readdress the related questions of cleanup values and analytical methods, or should the proposed rules be adopted without the stipulations listed above?

INTENDED FOLLOWUP ACTIONS:

If the Commission approves the Department's recommendation, the Department will:

1. Carefully monitor and review data from sites that are cleaned up under the proposed rules;

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2. Continue to work with EPA on the development and testing of uniform procedures for the analysis of petroleum hydrocarbon contamination;
3. Submit a report to the Commission within 15 months summarizing the progress being made under the proposed rules, any problems encountered in their application, and what progress is being made in the development of uniform analytical methods; and
4. If deemed necessary, request amendments to the rules in order to require better analytical techniques for the measurement of total petroleum hydrocarbons. Changes in the gasoline cleanup levels may also be necessary at that time if results by the new method are shown to be free of the interferences affecting Method 418.1.

Approved:

Section: Jon Ruce

Division: Michael Horne

Director: Lydia Taylor

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Date Prepared: June 22, 1989

MRA:mra
stfrpt.2
6-22-89

Proposed

Numeric Soil Cleanup Levels
For
Motor Fuel and Heating Oil

OAR 340-122-301 to 340-122-360

340-122-301	<u>Outline of Rules</u>
340-122-305	Purpose
340-122-310	Definitions
340-122-315	Scope and Applicability
340-122-320	Soil Cleanup Options
340-122-325	Evaluation of Matrix Cleanup Levels
340-122-330	Evaluation Parameters
340-122-335	Numeric Soil Cleanup Standards
340-122-340	Sample Number and Location
340-122-345	Sample Collection Methods
340-122-350	Required Analytical Methods
340-122-355	Evaluation of Analytical Results
340-122-360	Reporting Requirements

340-122-305 Purpose

These rules establish numeric soil cleanup standards pursuant to ORS 466.745 and OAR 340-122-245 (1988) for the remediation of motor fuel and heating oil releases from underground storage tanks. The soil cleanup levels have been developed to facilitate the cleanup of these releases while maintaining a high degree of protection of public health, safety, welfare and the environment.

340-122-310 Definitions

Terms not defined in this section have the meanings set forth in ORS 466.540, ORS 466.705, and OAR 340-122-210. Additional terms are defined as follows unless the context requires otherwise:

- (1) "Gasoline" means any petroleum distillate used primarily for motor fuel of which more than 50% of its components have hydrocarbon numbers of C10 or less.
- (2) "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.
- (3) "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.
- (4) "Non-gasoline fraction" means diesel and any other petroleum distillate used for motor fuel or heating oil of which more than 50% of its components have hydrocarbon numbers of C11 or greater.
- (5) "Soil" means any unconsolidated geologic materials including, but not limited to, clay, loam, loess, silt, sand, gravel, tills or any combination of these materials.

340-122-315 Scope and Applicability

- (1) These rules shall apply to the cleanup of releases from UST systems containing motor fuel and heating oil.
- (2) Matrix cleanup levels established by these rules are not applicable to the cleanup of petroleum releases which, due to their magnitude or complexity, are ordered by the Director to be conducted under OAR 340-122-010 through OAR 340-122-110.

340-122-320 Soil Cleanup Options

When using the numeric soil cleanup standards specified in these rules, the owner, permittee, or responsible person has the option of:

- (1) Cleaning up the site as specified in these rules to the numeric soil cleanup standard defined as Level 1 in 340-122-335(2); or
- (2) Evaluating the site as specified in 340-122-325 to determine the required Matrix cleanup level, and then cleaning up the site as specified in these rules to the numeric soil cleanup standard defined by that Matrix cleanup level.

340-122-325 Evaluation of Matrix Cleanup Level

- (1) In order to determine a specific Matrix cleanup level, the site must first be evaluated by:
 - (a) Assigning a numerical score to each of the five site-specific parameters in 340-122-330(1)-(5); and
 - (b) Totaling the parameter scores to arrive at the Matrix Score.
- (2) The Matrix Score shall then be used to select the appropriate numeric soil cleanup standard as specified in 340-122-335.

340-122-330 Evaluation Parameters

The site-specific parameters are to be scored as specified in this section. If any of the parameters in 340-122-330(1)-(5) is unknown, that parameter shall be given a score of 10.

- (1) Depth to Groundwater: This is the vertical distance (rounded to the nearest foot) from the surface of the ground to the highest seasonal elevation of the saturated zone.

The score for this parameter is:

>100 feet	1
51 -100 feet	4
25 - 50 feet	7
< 25 feet	10

- (2) Mean Annual Precipitation: This measurement may be obtained from the nearest appropriate weather station.

The score for this parameter is:

< 20 inches	1
20 - 40 inches	5
> 40 inches	10

- (3) Native Soil Type:

The score for this parameter is:

Low permeability materials such as clays, compact tills, shales, and unfractured metamorphic and igneous rocks. 1

Moderate permeability materials such as sandy loams, loamy sands, silty clays, and clay loams; moderately permeable limestones, dolomites and sandstones; and moderately fractured igneous and metamorphic rocks. 5

High permeability materials such as fine and silty sands, sands and gravels, highly fractured igneous and metamorphic rocks, permeable basalts and lavas, and karst limestones and dolomites. 10

- (4) Sensitivity of the Uppermost Aquifer: Due to the uncertainties involved in the Matrix evaluation process, this factor is included to add an extra margin of safety in situations where critical aquifers have the potential to be affected.

The score for this parameter is:

Unusable aquifer, either due to water quality conditions such as salinity, etc.; or due to hydrologic conditions such as extremely low yield.	1
Potable aquifer not currently used for drinking water, but the quality is such that it could be used for drinking water.	4
Potable aquifer currently used for drinking water; alternate unthreatened sources of water readily available.	7
Sole source aquifer currently used for drinking water; there are no alternate unthreatened sources of water readily available.	10

- (5) Potential Receptors: The score for potential receptors is based on both the distance to the nearest well and also the number of people at risk. Each of these two components is to be evaluated using the descriptors defined in this section.

(a) The distance to the nearest well is measured from the area of contamination to the nearest well that draws water from the aquifer of concern. If a closer well exists which is known to draw water from a deeper aquifer, but there is no evidence that the deeper aquifer is completely isolated from the contaminated aquifer, then the distance must be measured to the closer, deeper well.

The distance descriptors are:

Near	< 1/2 mile
Medium	1/2 - 3 miles
Far	> 3 miles

(b) The number of people at risk is to include all people located within 3 miles of the contaminated area. This number is to include not only residents of the area, but also others who regularly enter the area such as employees in restaurants, motels, or campgrounds.

The number descriptors are:

Many	> 3000
Medium	100 - 3000
Few	< 100

(c) The score for this parameter is taken from the combination of the two descriptors using the following grid:

	Many	Medium	Few
Near	10	10	5
Medium	10	5	1
Far	5	1	1

(6) The Matrix Score for a site is the sum of the five parameter scores in 340-122-330(1)-(5).

340-122-335 Numeric Soil Cleanup Standards

- (1) If the Matrix Score evaluated in 340-122-330 is:
 - (a) Greater than 40, the site must be cleaned up to at least the Level 1 standards listed in 340-122-335(2).
 - (b) From 25 to 40, inclusive, the site must be cleaned up to at least the Level 2 standards listed in 340-122-335(2).
 - (c) Less than 25, the site must be cleaned up to at least the Level 3 standards listed in 340-122-335(2).

- (2) The following table contains the required numeric soil cleanup standards based on the level of Total Petroleum Hydrocarbons (TPH) as measured by the analytical methods specified in 340-122-350.

	Level 1	Level 2	Level 3
TPH (Gasoline)	40 ppm	80 ppm	130 ppm
TPH (Diesel)	100 ppm	500 ppm	1000 ppm

- (3) The Gasoline TPH value shall be the target cleanup level for all sites unless a hydrocarbon identification (HCID) test clearly shows that the contaminant is Diesel or another non-gasoline fraction hydrocarbon as defined in 340-122-310(4). Under these conditions, the Diesel TPH value may be used as the target cleanup level.

340-122-340 Sample Number and Location

The collection and analysis of soil samples is required to verify that a site meets the requirements of these rules. These samples must represent the soils remaining at the site and shall be collected after contaminated soils have been removed or remediated. The number of soil samples required for a given site and the location at which the samples are to be collected are as follows:

- (1) A minimum of two soil samples must be collected from the site:
- (a) These samples must be taken from those areas where obviously stained or contaminated soils have been identified and removed or remediated.
 - (b) If there are two or more distinct areas of soil contamination, then a minimum of one sample must be collected from each of these areas.
 - (c) The samples must be taken from within the first foot of native soil directly beneath the areas where the contaminated soil has been removed, or from within the area where in-situ remediation has taken place.

(d) A field instrument sensitive to volatile organic compounds may be used to aid in identifying areas that should be sampled, but the field data may not be substituted for laboratory analyses of the soil samples.

(e) If there are no areas of obvious contamination, then samples must be collected from the locations specified in subsections (2) to (5) of this section which are most appropriate for the situation.

(2) If water is not present in the tank pit:

(a) Soil samples must be collected from the native soils located no more than two feet beneath the tank pit in areas where contamination is most likely to be found.

(b) For the removal of an individual tank, samples must be collected from beneath both ends of the tank. For the removal of multiple tanks from the same pit, a minimum of one sample must be collected for each 250 square feet of area in the pit.

(3) In situations where leaks have been found in the piping, or in which released product has preferentially followed the fill around the piping, samples are to be collected from the native soils directly beneath the areas where obvious contamination has been removed. Samples should be collected at 20 lateral foot intervals.

(4) If water is present in the tank pit, the Department must be notified of this fact. The owner, permittee, or responsible person shall then either continue the investigation under OAR 340-122-240, or do the following:

(a) Purge the water from the tank pit and dispose of it in accordance with all currently applicable requirements.

(b) If the pit remains dry for 24 hours, testing and cleanup may proceed according to the applicable sections of these soil cleanup rules. If water returns to the pit in less than 24 hours, a determination must be made as to whether contamination is likely to have affected the groundwater outside of the confines of the pit as indicated below:

(A) For the removal of an individual tank, soil samples are to be collected from the walls of the excavation next to the ends of the tank at the original soil/water interface. For the removal of multiple tanks from the same pit, a soil sample is to be collected from each of the four walls of the excavation at the original soil/water interface.

(B) At least one sample must be taken of the water in the pit.

(C) The soil samples must be analyzed for TPH and benzene, toluene, ethylbenzene and xylenes (BTEX), and the water sample must be analyzed for BTEX. These analyses must be made using the methods specified in 340-122-350. The results of these analyses must be submitted to the Department.

(D) The Department shall then determine how the cleanup shall proceed as specified in 340-122-355(3).

- (5) In situations where tanks and lines are to remain in place in areas of suspected contamination, the owner, permittee or responsible person shall submit a specific soil sampling plan to the Department for its approval.

340-122-345 Sample Collection Methods

- (1) The following information must be kept during the sampling events:

(a) A sketch of the site must be made which clearly shows all of the sample locations and identifies each location with a unique sample identification code.

(b) Each soil and water sample must be clearly labeled with its sample identification code. A written record must be maintained which includes, but is not limited to: the date, time and location of the sample collection; the name of the person collecting the sample; how the sample was collected; and any unusual or unexpected problems encountered during the sample collection which may have affected the sample integrity.

(c) Formal chain-of-custody records must be maintained for each sample.

- (2) If soil samples cannot be safely collected from the excavation, a backhoe may be used to remove a bucket of native soil from each of the sample areas. The soil is to be brought rapidly to the surface where samples are to be immediately taken from the soil in the bucket.

- (3) The following procedures must be used for the collection of soil samples from open pits or trenches:
- (a) Just prior to collecting each soil sample, approximately three inches of soil must be rapidly scraped away from the surface of the sample location.
 - (b) To minimize the loss of volatile materials, it is recommended that samples be taken using a driven-tube type sampler. A clean brass or stainless steel tube of at least one inch in diameter and three inches in length may be used for this purpose. The tube should be driven into the soil with a suitable instrument such as a wooden mallet or hammer.
 - (c) The ends of the sample-filled tube must be immediately covered with clean aluminum foil. The foil must be held in place by plastic end caps which are then sealed onto the tube with a suitable tape.
 - (d) Alternatively, samples may be taken with a minimum amount of disturbance and packed in a clean wide-mouth glass jar leaving as little headspace as possible. The jar must then be immediately sealed with a teflon-lined screw cap.
 - (e) After the samples are properly sealed, they are to be immediately placed on ice and maintained at a temperature of no greater than 4 °C (39 °F) until being prepared for analysis by the laboratory. All samples must be analyzed within 14 days of collection.
- (4) The following procedures must be used for the collection of water samples from the tank pit:
- (a) After the water has been purged from the pit in accordance with 340-122-340(4)(a), it is not necessary to wait for the pit to refill to its original depth, only for sufficient water to return to properly use the sampling device.
 - (b) Samples are to be taken with a device designed to reduce the loss of volatile components. A bailer with a sampling port is suitable for this purpose.
 - (c) The water is to be transferred into a glass vial with as little agitation as possible and immediately sealed with a teflon-lined cap. The vial must be filled completely so that no air bubbles remain trapped inside.
 - (d) After the samples are properly sealed, they are to be immediately placed on ice and maintained at a

temperature of no greater than 4 °C (39 °F) until being prepared for analysis in the laboratory. All samples must be analyzed within 14 days of collection.

- (5) The Department may approve alternative sampling methods which have been clearly shown to be at least as effective with respect to minimizing the loss of volatile materials during sampling and storage as the methods listed in 340-122-345(1)-(4).

340-122-350 Required Analytical Methods

The following methods are to be used for the analysis of the soil and water samples, as applicable:

- (1) Total Petroleum Hydrocarbons (TPH) shall be analyzed by means of EPA Method 418.1 using the sample extraction and preparation technique specified by the Department.
- (2) Hydrocarbon Identification (HCID) shall be made, using the extract from EPA Method 418.1, by a gas chromatographic method capable of identifying, in terms of the number of carbon atoms, the range of hydrocarbons present in the sample.
- (3) Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) shall be analyzed by means of EPA Method 5030 in conjunction with either EPA Method 8020 or EPA Method 8240.
- (4) The Department may approve alternative analytical methods which have been clearly shown to be applicable for the compounds of interest and which have detection limits at least as low the methods listed in 340-122-350(1)-(3).
- (5) The Department shall review the effectiveness of the analytical methods delineated in 340-122-350 (1) - (3) and report to the Commission within 15 months on the appropriateness of their use and, if necessary, recommend changes to the analytical methods and/or the cleanup standards delineated in subsection 340-122-335 of these rules.

340-122-355 Evaluation of Analytical Results

- (1) The results of the soil analyses shall be interpreted as follows:
 - (a) If a sample has a concentration less than or equal to the required matrix level, the area represented by

that sample shall have met the requirements of these rules.

(b) If a sample has a concentration exceeding the required matrix level by more than 10%, the area represented by that sample has not met the requirements of these rules. Further remediation, sampling and testing is necessary until the required level is attained.

(c) If a sample has a concentration exceeding the required matrix level by less than 10%, the responsible person has the option of collecting and analyzing two more samples from the same area and using the average of all three to determine if the standard has been met; or further remediating the area and then collecting and analyzing one new sample and using the concentration of the new sample to determine if the standard has been met.

- (2) A site shall be considered sufficiently clean when all of the sampled areas have concentrations less than or equal to the required matrix cleanup level, and when the possibility of any human contact with the residual soil contamination remaining on the site has been precluded.
- (3) If water is present in the tank pit, the Department shall decide if cleanup may proceed under these rules or if further action must be taken such as the installation of monitoring wells, or the development of a Corrective Action Plan under OAR 340-122-250. This decision shall be based on, but is not limited to:
 - (a) The apparent extent of the contamination;
 - (b) The likelihood that groundwater contamination exists beyond the boundaries of the tank pit;
 - (c) The likelihood that the BTEX concentrations in the water and the BTEX and TPH concentrations in the soil indicate a situation which poses a threat to public health, safety, welfare and the environment; and
 - (d) Any other site-specific factors deemed appropriate by the Department.
- (4) If a pocket of contamination exceeding the required Matrix cleanup level is located under a building or other structure where further removal would endanger the structure or be prohibitively expensive, the Department must be notified of this situation. The Director shall then decide whether such contamination can remain without threatening human health, safety, and welfare

and the environment. If not, the Department shall require further remediation.

340-122-360 Reporting Requirements

- (1) An owner, permittee, or responsible person shall submit a final report to the Department for a site that has been cleaned up according to these rules, which report shall contain, but is not limited to:
 - (a) A list of the individual parameter and factor scores used to arrive at the Matrix score for the site;
 - (b) All of the sampling documentation required in 340-122-345(4);
 - (c) Copies of the laboratory reports for all of the samples collected at the site, including samples that were too high and which required further action under 340-122-355(1);
 - (d) A brief explanation of what was done in the case of any samples that initially exceeded the required cleanup levels;
 - (e) A summary of the concentrations measured in the final round of samples from each sampling location;
 - (f) An explanation of what was done with any contaminated soil that was removed from the site;
 - (g) In cases where groundwater was present in the pit, a summary of the data collected and the decision made by the Department under 340-122-355(3).
 - (h) In cases where pockets of excess contamination remain on site in accordance with 340-122-355(4), a description of this contamination including location, approximate volume and concentration.
- (2) The owner, permittee, or responsible person shall retain a copy of the report submitted to the Department under this section until the time of first transfer of the property, plus 10 years.
- (3) Within 120 days after receipt of the final report under this section, the Department shall:
 - (a) Provide the person submitting the report a written statement that, based upon information contained in the report, the site has been cleaned up in accordance with OAR 340-122-301 through 340-122-360; or

(b) Request the owner, permittee, or responsible person to submit additional information or perform further investigation; or

(c) Request the owner, permittee, or responsible person to develop and submit a corrective action plan in accordance with OAR 340-122-250.

AMENDMENTS TO OAR 340-122-030

340-122-030

SCOPE AND APPLICABILITY

(1) Exempted Releases

These rules shall not apply to releases exempted pursuant to ORS 466.540(14) (a), (b), (c), and (d).

(2) Conditional Exemption of Permitted Releases

These rules shall not apply to a permitted release of hazardous substances, unless the Director determines that application of these rules might be necessary to perform a preliminary assessment or in order to protect public health, safety, or welfare or the environment.

(3) Relationship to Other Cleanup Actions

(a) Except as provided under OAR 340-122-030 (3)(b), these rules shall not apply to releases where one of the following actions has been completed:

(A) Spill response pursuant to ORS 466.605 to 466.680;

(B) Oil spill cleanup on surface waters pursuant to ORS 468.780 to 468.815;

(C) Corrective action of a release of a hazardous waste pursuant to ORS 466.005 to 466.350;

(D) Cleanup pursuant to ORS 468.700 to 468.778.

(b) Where hazardous substances remain after completion of one of the actions referred to in OAR 340-122-030 (3) (a), these rules may apply if the Director determines that application of these rules might be necessary to perform a preliminary assessment or in order to protect public health, safety, or welfare or the environment.

(4) OAR 340-122-205 to 340-122-360 shall apply to corrective action for releases of petroleum from underground storage tanks that are subject to ORS 466.705 to 466.835 and 466.895, except as provided under OAR 340-122-215(2) which authorizes the Director to order the cleanup under 340-122-010 to 340-122-110.

AMENDMENTS TO OAR 340-122-201 TO 340-122-260

340-122-215

Scope and Applicability

- (1) Sections 340-122-205 [to 340-122-260] through 340-122-360 of these rules apply to:
 - (a) An owner or permittee ordered or authorized to conduct cleanup or related activities by the Director under ORS 466.705 to 466.835 and 466.895; or
 - (b) Any person ordered or authorized to conduct remedial actions or related activities by the Director under ORS 466.540 to 466.590.
- (2) Notwithstanding OAR 340-122-215(1)(b) and 340-122-360(3), the Director may require that investigation and cleanup of a release from a petroleum UST system be governed by OAR 340-122-010 to 340-122-110, if, based on the magnitude or complexity of the release or other considerations, the Director determines that application of OAR 340-122-010 through 340-122-110 is necessary to protect the public health, safety, welfare and the environment.
- (3) Cleanup of releases from UST systems containing regulated substances under ORS 466.705 other than petroleum shall be governed by OAR 340-122-010 to 340-122-110 or as otherwise provided under applicable law.
- (4) The Director may determine that the investigation and cleanup of releases from petroleum underground storage tank systems which are exempted under ORS 466.710(1) through (10) inclusive, shall be conducted under 340-122-205 [to 340-122-260] through 340-122-360, based upon the authority provided under ORS 466.540 to 466.590.

Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil

- (1) The Director shall develop and propose to the Environmental Quality Commission for rulemaking, matrices with numeric soil cleanup levels for motor fuel and heating oil, which may include but are not limited to specific constituents such as benzene, xylene, toluene, and ethylbenzene.
- (2) The matrices shall establish numeric soil cleanup levels that provide a high degree of protection in accordance with OAR 340-122-040(1).
- (3) Within 6 months after the effective date of these rules, the Director shall request the Environmental Quality Commission to commence rulemaking and authorize a public hearing on the proposed matrices, in accordance with ORS 466.745.
- (4) Until adoption of such matrices by rule, cleanup levels shall be determined under OAR 340-122-250(2) as applicable, unless the Director determines that abatement and cleanup conducted under subsections 340-122-220 and 340-122-225 have resulted in a cleanup level adequate to protect public health, safety, welfare and the environment.
- (5) The matrices may include, but not be limited to, the following factors:
 - (a) Distance to groundwater;
 - (b) Soil type;
 - (c) Geology of the site;
 - (d) Average annual precipitation; and
 - (e) Other factors deemed appropriate by the Director.
- (6) The owner, permittee, or responsible person may either:
 - (a) Propose clean up of the soils to a level specified in the matrices; or
 - (b) Develop a Corrective Action Plan for soils under OAR 340-122-250(2).

- (7) The Director shall not approve cleanup actions proposed under OAR 340-122-245(6)(a) if the Director determines that the numeric soil cleanup levels are not appropriate or adequate to protect public health, safety, welfare and the environment. In such cases, the Director shall require the owner, permittee, or responsible person, to develop a corrective action plan, under OAR 340-122-250, or 340-122-010 to 340-122-110.]

Corrective Action Plan

- (1) At any point after reviewing the information submitted in compliance with subsections 340-122-220 through 340-122-230 or 340-122-301 through 340-122-360, the Director may require owners, permittees or responsible persons to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater. If a plan is required, owners, permittees or responsible persons shall submit the plan according to a schedule and format established by the Director. Alternatively, owners, permittees or responsible persons may, after fulfilling the requirements of subsections 340-122-220 through 340-122-230 or 340-122-301 through 340-122-360, choose to submit a corrective action plan for responding to contaminated soil and groundwater. In either case, owners, permittees or responsible persons are responsible for submitting a plan that provides for adequate protection of public health, safety, welfare and the environment as determined by the Director, and shall modify their plan as necessary to meet this standard.
- (2) The Director shall approve the corrective action plan only after ensuring that implementation of the plan will adequately protect public health, safety, welfare and the environment. In making this determination, the Director shall consider the following factors, as appropriate:
 - (a) The physical and chemical characteristics of the regulated substance, including its toxicity, persistence, and potential for migration;
 - (b) The hydrogeologic characteristics of the facility and the surrounding area;
 - (c) The proximity, quality, and current and future uses of nearby surface water and groundwater;
 - (d) The potential effects of residual contamination of nearby surface water and groundwater;
 - (e) An exposure assessment;
 - (f) Any information assembled in compliance with this subsection;
 - (g) The impact of the release on adjacent properties; and
 - (h) Other matters deemed appropriate by the Director.

- (3) Upon approval of the corrective action plan or as directed by the Director, owners, permittees or responsible persons shall implement the plan, including modifications to the plan made by the Director. They shall monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the Director.
- (4) Owners, permittees or responsible persons may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and groundwater before the corrective action plan is approved provided that they:
 - (a) Notify the Director of their intention to begin cleanup;
 - (b) Comply with and conditions imposed by the Director, including halting cleanup or mitigating adverse consequences from cleanup activities; and
 - (c) Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the Director for approval.

- (1) The Department shall maintain a list of all confirmed releases and ensure that site release and cleanup information are made available to the public for inspection upon request.
- (2) For each confirmed release, upon written request by 10 or more persons or by a group having 10 or more members, the Department shall conduct a public meeting at or near the facility for the purpose of receiving verbal comment regarding proposed cleanup activities, except those cleanup activities conducted under [OAR 340-122-245] OAR 340-122-301 through 340-122-360.
- (3) For each confirmed release that requires a corrective action plan, the Department shall provide notice to the public by means designed to reach those members of the public directly affected by the release and the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.
- (4) The Department shall ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.
- (5) Before approving a corrective action plan, the Department may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.
- (6) The Department shall give public notice that complies with paragraph (3) of this subsection if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the Department.

AMENDMENTS TO OAR 340-150-130

340-150-130 Permanent Decommissioning of an Underground Storage Tank

- (1) Upon the effective date of these rules any underground storage tank that is permanently decommissioned must comply with the requirements of this section.
- (2) After the effective date of these rules, an underground storage tank that is taken out of operation for longer than 24 months must be permanently decommissioned.
- (3) Prior to permanent decommissioning the tank owner or permittee must notify the department in writing.
- (4) All tanks that are permanently decommissioned must be emptied and either removed from the ground or be filled with an inert solid material.
 - (a) The permanent decommissioning procedures described in API 1604 "Recommended Practice for Abandonment or Removal of Used Underground Service Station Tanks" may be used as guidelines for compliance with this section.
- (5) Dispose of all liquids, solids and sludge removed from the tank by recycling or dispose in a manner approved by the department.
- (6) All tanks removed from the ground must be disposed of in a manner approved by the department.
- (7) Measure for the presence of a release from the UST system. A release shall be considered to have occurred if, by following the sampling and analytical procedures specified in OAR 340-122-301 to 340-122-360, contaminant levels are found which exceed the levels specified in those rules.
- (8) [(7)] If contaminated soil, contaminated ground water, or free product as a liquid or vapor [evidence of a release] is discovered during measurement for the presence of a release the tank owner or permittee must;

 - (a) Notify the department within 24 hours. (Phone: 1-800-452-0311 or 1-800-452-4011)
 - (b) Assess the source and the extent of the release.
 - (c) Meet with the department to set up a cleanup standard and a schedule for cleanup.
 - (d) Cleanup the release.

(9) [(8)] All underground storage tank owners must maintain records which are capable of demonstrating compliance with the permanent decommissioning requirement under this section. These records must be maintained for at least three years after permanent decommissioning and made available, upon request, to the department during business hours.

RULEMAKING STATEMENTS

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the Environmental Quality Commission's intended action to hold public hearings and adopt a rule.

(1) **Legal Authority**

ORS 466.553(1) authorizes the Environmental Quality Commission to adopt rules, in accordance with the applicable provision of ORS 183.310 to 183.550, necessary to carry out the provisions of ORS 466.540 to 466.590. ORS 466.720(1) directs the Commission to adopt a state-wide underground storage tank program. ORS 466.745(1) authorizes the Commission to adopt rules necessary to carry out the provisions of 466.705 to 466.835 and 466.895. In addition, ORS 468.020 authorizes the Commission to adopt such rules and standards as it considers necessary and proper in performing the functions vested by law in the Commission.

(2) **Need for the Rule**

ORS 466.553(2)(a) requires the Commission to adopt rules establishing the levels, factors, criteria or other provisions for the degree of cleanup including the control of further releases of a hazardous substance, and the selection of the remedial actions necessary to assure protection of the public health, safety, welfare and the environment.

ORS 466.745(1)(e)(j)(k) and (L) authorize the Commission to adopt rules establishing requirements for reporting a release from an underground storage tank, reporting corrective action taken in response to a release, taking corrective action in response to a release, and any other requirements necessary to carry out the provisions of ORS 466.705 to 466.835 and 466.895. Although both sets of statutes require protection of public health, safety, welfare and the environment, they do not define or specify the level of protection or the degree of cleanup. Hazardous Substance Remedial Action Rules (adopted September 16, 1988) and Cleanup Rules for Leaking Petroleum UST Systems (adopted November 4, 1988) were adopted to implement the statutes and delineate the decision making process for degree of cleanup and selection of cleanup action. OAR 340-122-245 directs the Department to propose to the Commission for rulemaking, matrices with numeric soil cleanup levels for motor fuel and heating oil.

(3) Principal Documents Relied Upon in this Rulemaking

- ORS 466.705 to 466.835 and 466.895
- ORS 466.540 to 466.590
- OAR Chapter 340, Divisions 41, 47, 50, 61, 108 and 122
- Comprehensive Environmental Response, Compensation, and Liability Act, P.L. 96-510, as amended by P.L. 99-499.
- Environmental Protection Agency's final Technical Requirements for Underground Storage Tanks, 40 CFR Part 280.

FISCAL AND ECONOMIC IMPACT STATEMENT

As required in subsection 340-122-245 of the UST Cleanup Rules, the Department has developed matrices of soil cleanup levels for motor fuel and heating oil releases. If the EQC adopts the soil cleanup matrices, this will probably result in significant but indeterminable savings to owners, permittees and responsible persons.

Providing a predetermined cleanup level will result in significant but indeterminable savings because the owner, permittee, or responsible person would not have to perform more extensive and costly investigation and reporting procedures in other subsections of the adopted UST cleanup rules or the adopted remedial action cleanup rules.

This approach was selected, in part, because a very large number of the sites that will be cleaned up, and most of the underground storage tank sites, will be for releases of motor fuel and heating oil into soils. Many of these tanks are owned by small businesses, which cannot afford the economic burden of closing down operations and conducting extensive investigation and cleanup, nor is that necessary for relatively simple soil contamination cleanups.

The costs of cleanups for leaking underground storage tanks have ranged from \$25,000 to \$1 million nationally and from \$5,000 to \$200,000 in Oregon. Average costs in Oregon may be approximately \$50,000. If there are 2,000 sites with leaking petroleum USTs over the next 10 years, the total costs will be approximately \$100 million.

A small portion of these costs will be paid by the Federal Leaking Underground Storage Tank Trust Fund for releases with no viable responsible person. The balance will be paid by the liable person(s). Close to a majority of these costs may be borne by small businesses that own gas stations. Local and state agencies, which operate gasoline stations for fleets or otherwise own underground storage tanks, will bear some of these costs.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

Proposed Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil,
and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

Hearing Dates: May 16, 1989, May 18, 1989,
May 23, 1989, May 24, 1989,
May 25, 1989

Comments Due: June 2, 1989

**WHO IS
AFFECTED:**

The proposed rules will affect owners, permittees and operators of regulated underground storage tanks containing motor fuel and heating oil. Also affected may be owners of unregulated tanks containing these products.

**WHAT IS:
PROPOSED:**

The Department of Environmental Quality is proposing rules to facilitate the cleanup of minor releases of motor fuel and heating oil. The proposed rules are intended to augment the Leaking Petroleum UST Rules (OAR 340-122-201 to 260) which were adopted by the Environmental Quality Commission on November 4, 1988, and would be applied to the cleanup of sites where the contamination is restricted to the soils and groundwater has not been impacted. The proposed rules would establish numeric soil cleanup levels and allow the party responsible for a minor release of these products to immediately proceed with the cleanup without having to develop and submit a site-specific Corrective Action Plan.

Amendments to existing rules are also proposed to provide consistency between the proposed cleanup rules and the existing tank decommissioning rules.

**WHAT ARE THE
HIGHLIGHTS:**

In the case of minor releases of motor fuel and heating oil, the proposed rules:

1. Provide the option of cleaning up the site to the most stringent level without evaluation, or evaluating the site to determine the site-specific cleanup level;
2. Contain a matrix of numeric soil cleanup standards for motor fuel and heating oil;
3. Outline a process for evaluating the required cleanup levels;

(over)



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

4. Specify requirements for:

The number of samples at a site,
Where the samples should be collected,
How the samples should be collected,
How the samples should be analyzed, and
How the data should be interpreted; and

5. List what information needs to be reported to the Department and how the Department must respond to this information.

HOW TO COMMENT: Public Hearings Schedule

Portland

May 16, 1989
7:00 - 9:00 P.M.
Multnomah County Court House
1021 S.W. 4th Avenue
Room 602

Pendleton

May 18, 1989
7:00 - 9:00 P.M.
Blue Mountain
Community College
2411 N.W. Carden
Morrow Lecture Hall
Room M130

Bend

May 23, 1989
7:00 - 9:00 P.M.
City Council Chambers
720 N.W. Wall St.
Police Station Bldg.

Eugene

May 24, 1989
7:00 - 9:00 P.M.
Lane Community College
4000 E. 30th Avenue
Room 308 Forum Building

Medford

May 25, 1989
7:00 - 9:00 P.M.
Extension Office
1301 Maple Grove Drive
Conference Room

Written comments should be sent to:

Department of Environmental Quality
Environmental Cleanup Division
UST Cleanup Section
811 S.W. Sixth Avenue
Portland, OR 97204

The comment period will end Friday, June 2, 1989. All comments must be received at the Department by no later than 5:00 P.M. on that date.

For more information or copies of the proposed rules, contact Michael Anderson at (503) 229-6764 or toll-free at 1-800-452-4011.

WHAT IS THE
NEXT STEP:

After public testimony has been received and evaluated, the proposed rules will be revised as appropriate and presented to the Environmental Quality Commission in July, 1989. The Commission may adopt the Department's recommendation, amend the Department's recommendation, or take no action.

**REMOVAL OR REMEDIAL ACTION TO
ABATE HEALTH HAZARDS**

**466.540 Definitions for ORS 466.540
to 466.590. As used in ORS 466.540 to 466.590
and 466.900:**

(1) "Claim" means a demand in writing for a sum certain.

(2) "Commission" means the Environmental Quality Commission.

(3) "Department" means the Department of Environmental Quality.

(4) "Director" means the Director of the Department of Environmental Quality.

(5) "Environment" includes the waters of the state, any drinking water supply, any land surface and subsurface strata and ambient air.

(6) "Facility" means any building, structure, installation, equipment, pipe or pipeline including any pipe into a sewer or publicly owned treatment works, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, above ground tank, underground storage tank, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located and where a release has occurred or where there is a threat of a release, but does not include any consumer product in consumer use or any vessel.

(7) "Fund" means the Hazardous Substance Remedial Action Fund established by ORS 466.590.

(8) "Guarantor" means any person, other than the owner or operator, who provides evidence of financial responsibility for an owner or operator under ORS 466.540 to 466.590 and 466.900.

(9) "Hazardous substance" means:

(a) Hazardous waste as defined in ORS 466.005.

(b) Any substance defined as a hazardous substance pursuant to section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510, as amended, P.L. 96-510 and P.L. 99-499.

(c) Oil.

(d) Any substance designated by the commission under ORS 466.553.

(10) "Natural resources" includes but is not limited to land, fish, wildlife, biota, air, surface water, groundwater, drinking water supplies and any other resource owned, managed, held in trust or otherwise controlled by the State of Oregon or a political subdivision of the state.

(11) "Oil" includes gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge or refuse and any other petroleum-related product, or waste or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and pressure of 14.7 pounds per square inch absolute.

(12) "Owner or operator" means any person who owned, leased, operated, controlled or exercised significant control over the operation of a facility. "Owner or operator" does not include a person, who, without participating in the management of a facility, holds indicia of ownership primarily to protect a security interest in the facility.

(13) "Person" means an individual, trust, firm, joint stock company, joint venture, consortium, commercial entity, partnership, association, corporation, commission, state and any agency thereof, political subdivision of the state, interstate body or the Federal Government including any agency thereof.

(14) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment including the abandonment or discarding of barrels, containers and other closed receptacles containing any hazardous substance, or threat thereof, but excludes:

(a) Any release which results in exposure to a person solely within a workplace, with respect to a claim that the person may assert against the person's employer under ORS chapter 656;

(b) Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel or pipeline pumping station engine;

(c) Any release of source, by-product or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, as amended, if such release is subject to requirements with respect to financial protection

established by the Nuclear Regulatory Commission under section 170 of the Atomic Energy Act of 1954, as amended, or, for the purposes of ORS 466.570 or any other removal or remedial action, any release of source by-product or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978; and

(d) The normal application of fertilizer.

(15) "Remedial action" means those actions consistent with a permanent remedial action taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of a hazardous substance so that they do not migrate to cause substantial danger to present or future public health, safety, welfare or the environment. "Remedial action" includes, but is not limited to:

(a) Such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative drinking and household water supplies, and any monitoring reasonably required to assure that such actions protect the public health, safety, welfare and the environment.

(b) Offsite transport and offsite storage, treatment, destruction or secure disposition of hazardous substances and associated, contaminated materials.

(c) Such actions as may be necessary to monitor, assess, evaluate or investigate a release or threat of release.

(16) "Remedial action costs" means reasonable costs which are attributable to or associated with a removal or remedial action at a facility, including but not limited to the costs of administration, investigation, legal or enforcement activities, contracts and health studies.

(17) "Removal" means the cleanup or removal of a released hazardous substance from the environment, such actions as may be necessary taken in the event of the threat of release of a hazardous substance into the environment, such actions as may be necessary to monitor, assess and evaluate the release or threat of release of a hazardous substance, the disposal of removed

material, or the taking of such other actions as may be necessary to prevent, minimize or mitigate damage to the public health, safety, welfare or to the environment, which may otherwise result from a release or threat of release. "Removal" also includes but is not limited to security fencing or other measures to limit access, provision of alternative drinking and household water supplies, temporary evacuation and housing of threatened individuals and action taken under ORS 466.570.

(18) "Transport" means the movement of a hazardous substance by any mode, including pipeline and in the case of a hazardous substance which has been accepted for transportation by a common or contract carrier, the term "transport" shall include any stoppage in transit which is temporary, incidental to the transportation movement, and at the ordinary operating convenience of a common or contract carrier, and any such stoppage shall be considered as a continuity of movement and not as the storage of a hazardous substance.

(19) "Underground storage tank" has the meaning given that term in ORS 466.705.

(20) "Waters of the state" has the meaning given that term in ORS 468.700. [1987 c.539 §52; 1987 c.735 §1]

466.547 Legislative findings. (1) The Legislative Assembly finds that:

(a) The release of a hazardous substance into the environment may present an imminent and substantial threat to the public health, safety, welfare and the environment; and

(b) The threats posed by the release of a hazardous substance can be minimized by prompt identification of facilities and implementation of removal or remedial action.

(2) Therefore, the Legislative Assembly declares that:

(a) It is in the interest of the public health, safety, welfare and the environment to provide the means to minimize the hazards of and damages from facilities.

(b) It is the purpose of ORS 466.540 to 466.590 and 466.900 to:

(A) Protect the public health, safety, welfare and the environment; and

(B) Provide sufficient and reliable funding for the department to expediently and effectively authorize, require or undertake removal or remedial action to abate hazards to the public health, safety, welfare and the environment. [1987 c.735 §2]

466.550 Authority of department for removal or remedial action. (1) In addition to any other authority granted by law, the department may:

(a) Undertake independently, in cooperation with others or by contract, investigations, studies, sampling, monitoring, assessments, surveying, testing, analyzing, planning, inspecting, training, engineering, design, construction, operation, maintenance and any other activity necessary to conduct removal or remedial action and to carry out the provisions of ORS 466.540 to 466.590 and 466.900; and

(b) Recover the state's remedial action costs.

(2) The commission and the department may participate in or conduct activities pursuant to the federal Comprehensive Environmental Response, Compensation and Liability Act, as amended, P.L. 96-510 and P.L. 99-499, and the corrective action provisions of Subtitle I of the federal Solid Waste Disposal Act, as amended, P.L. 96-482 and P.L. 98-616. Such participation may include, but need not be limited to, entering into a cooperative agreement with the United States Environmental Protection Agency.

(3) Nothing in ORS 466.540 to 466.590 and 466.900 shall restrict the State of Oregon from participating in or conducting activities pursuant to the federal Comprehensive Environmental Response, Compensation and Liability Act, as amended, P.L. 96-510 and P.L. 99-499. [1987 c.735 §3]

466.553 Rules; designation of hazardous substance. (1) In accordance with the applicable provisions of ORS 183.310 to 183.550, the commission may adopt rules necessary to carry out the provisions of ORS 466.540 to 466.590 and 466.900.

(2)(a) Within one year after the effective date of this Act, the commission shall adopt rules establishing the levels, factors, criteria or other provisions for the degree of cleanup including the control of further releases of a hazardous substance, and the selection of remedial actions necessary to assure protection of the public health, safety, welfare and the environment.

(b) In developing rules pertaining to the degree of cleanup and the selection of remedial actions under paragraph (a) of this subsection, the commission may, as appropriate, take into account:

(A) The long-term uncertainties associated with land disposal;

(B) The goals, objectives and requirements of ORS 466.005 to 466.385;

(C) The persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous substances and their constituents;

(D) The short-term and long-term potential for adverse health effects from human exposure to the hazardous substance;

(E) Long-term maintenance costs;

(F) The potential for future remedial action costs if the alternative remedial action in question were to fail;

(G) The potential threat to human health and the environment associated with excavation, transport and redisposal or containment; and

(H) The cost effectiveness.

(3)(a) By rule, the commission may designate as a hazardous substance any element, compound, mixture, solution or substance or any class of substances that, should a release occur, may present a substantial danger to the public health, safety, welfare or the environment.

(b) Before designating a substance or class of substances as a hazardous substance, the commission must find that the substance, because of its quantity, concentration, or physical, chemical or toxic characteristics, may pose a present or future hazard to human health, safety, welfare or the environment should a release occur. [1987 c.735 §4]

466.555 Remedial Action Advisory Committee. The director shall appoint a Remedial Action Advisory Committee in order to advise the department in the development of rules for the implementation of ORS 466.540 to 466.590 and 466.900. The committee shall be comprised of members representing at least the following interests:

- (1) Citizens;
- (2) Local governments;
- (3) Environmental organizations; and
- (4) Industry. [1987 c.735 §5]

466.557 Inventory of facilities where release confirmed. (1) For the purposes of providing public information, the director shall develop and maintain an inventory of all facilities where a release is confirmed by the department.

(2) The director shall make the inventory available for the public at the department's offices.

(3) The inventory shall include but need not be limited to the following items, if known:

- (a) A general description of the facility;
- (b) Address or location;

(c) Time period during which a release occurred;

(d) Name of the current owner and operator and names of any past owners and operators during the time period of a release of a hazardous substance;

(e) Type and quantity of a hazardous substance released at the facility;

(f) Manner of release of the hazardous substance;

(g) Levels of a hazardous substance, if any, in ground water, surface water, air and soils at the facility;

(h) Status of removal or remedial actions at the facility; and

(i) Other items the director determines necessary.

(4) Thirty days before a facility is added to the inventory the director shall notify by certified mail the owner of all or any part of the facility that is to be included in the inventory. The decision of the director to add a facility may be appealed in writing to the commission within 15 days after the owner receives notice. The appeal shall be conducted in accordance with provisions of ORS 183.310 to 183.550 governing contested cases.

(5) The department shall, on or before January 15, 1989, and annually thereafter, submit the inventory and a report to the Governor, the Legislative Assembly and the Environmental Quality Commission.

(6) Nothing in this section, including listing of a facility in the inventory or commission review of the listing shall be construed to be a prerequisite to or otherwise affect the authority of the director to undertake, order or authorize a removal or remedial action under ORS 466.540 to 466.590 and 466.900. [1987 c.735 §6]

466.560 Comprehensive state-wide identification program; notice. (1) The department shall develop and implement a comprehensive state-wide program to identify any release or threat of release from a facility that may require remedial action.

(2) The department shall notify all daily and weekly newspapers of general circulation in the state and all broadcast media of the program developed under subsection (1) of this section. The notice shall include information about how the public may provide information on a release or threat of release from a facility.

(3) In developing the program under subsection (1) of this section, the department shall

examine, at a minimum, any industrial or commercial activity that historically has been a major source in this state of releases of hazardous substances.

(4) The department shall include information about the implementation and progress of the program developed under subsection (1) of this section in the report required under ORS 466.557 (5). [1987 c.735 §7]

466.563 Preliminary assessment of potential facility. (1) If the department receives information about a release or a threat of release from a potential facility, the department shall conduct a preliminary assessment of the potential facility. The preliminary assessment shall be conducted as expeditiously as possible within the budgetary constraints of the department.

(2) A preliminary assessment conducted under subsection (1) of this section shall include a review of existing data, a good faith effort to discover additional data and a site inspection to determine whether there is a need for further investigation. [1987 c.735 §8]

466.565 Accessibility of information about hazardous substances. (1) Any person who has or may have information, documents or records relevant to the identification, nature and volume of a hazardous substance generated, treated, stored, transported to, disposed of or released at a facility and the dates thereof, or to the identity or financial resources of a potentially responsible person, shall, upon request by the department or its authorized representative, disclose or make available for inspection and copying such information, documents or records.

(2) Upon reasonable basis to believe that there may be a release of a hazardous substance at or upon any property or facility, the department or its authorized representative may enter any property or facility at any reasonable time to:

- (a) Sample, inspect, examine and investigate;
- (b) Examine and copy records and other information; or
- (c) Carry out removal or remedial action or any other action authorized by ORS 466.540 to 466.590 and 466.900.

(3) If any person refuses to provide information, documents, records or to allow entry under subsections (1) and (2) of this section, the department may request the Attorney General to seek from a court of competent jurisdiction an order requiring the person to provide such information, documents, records or to allow entry.

(4)(a) Except as provided in paragraphs (b) and (c) of this subsection, the department or its authorized representative shall, upon request by the current owner or operator of the facility or property, provide a portion of any sample obtained from the property or facility to the owner or operator.

(b) The department may decline to give a portion of any sample to the owner or operator if, in the judgment of the department or its authorized representative, apportioning a sample:

(A) May alter the physical or chemical properties of the sample such that the portion of the sample retained by the department would not be representative of the material sampled; or

(B) Would not provide adequate volume to perform the laboratory analysis.

(c) Nothing in this subsection shall prevent or unreasonably hinder or delay the department or its authorized representative in obtaining a sample at any facility or property.

(5) Persons subject to the requirements of this section may make a claim of confidentiality regarding any information, documents or records, in accordance with ORS 466.090. [1987 c.735 §9]

466.567 Strict liability for remedial action costs for injury or destruction of natural resource; limited exclusions. (1) The following persons shall be strictly liable for those remedial action costs incurred by the state or any other person that are attributable to or associated with a facility and for damages for injury to or destruction of any natural resources caused by a release:

(a) Any owner or operator at or during the time of the acts or omissions that resulted in the release.

(b) Any owner or operator who became the owner or operator after the time of the acts or omissions that resulted in the release, and who knew or reasonably should have known of the release when the person first became the owner or operator.

(c) Any owner or operator who obtained actual knowledge of the release at the facility during the time the person was the owner or operator of the facility and then subsequently transferred ownership or operation of the facility to another person without disclosing such knowledge.

(d) Any person who, by any acts or omissions, caused, contributed to or exacerbated the release, unless the acts or omissions were in material compliance with applicable laws, standards, regulations, licenses or permits.

(e) Any person who unlawfully hinders or delays entry to, investigation of or removal or remedial action at a facility.

(2) Except as provided in paragraphs (b) to (e) of subsection (1) of this section and subsection (4) of this section, the following persons shall not be liable for remedial action costs incurred by the state or any other person that are attributable to or associated with a facility, or for damages for injury to or destruction of any natural resources caused by a release:

(a) Any owner or operator who became the owner or operator after the time of the acts or omissions that resulted in a release, and who did not know and reasonably should not have known of the release when the person first became the owner or operator.

(b) Any owner or operator if the facility was contaminated by the migration of a hazardous substance from real property not owned or operated by the person.

(c) Any owner or operator at or during the time of the acts or omissions that resulted in the release, if the release at the facility was caused solely by one or a combination of the following:

(A) An act of God. "Act of God" means an unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(B) An act of war.

(C) Acts or omissions of a third party, other than an employe or agent of the person asserting this defense, or other than a person whose acts or omissions occur in connection with a contractual relationship, existing directly or indirectly, with the person asserting this defense. As used in this subparagraph, "contractual relationship" includes but is not limited to land contracts, deeds or other instruments transferring title or possession.

(3) Except as provided in paragraphs (c) to (e) of subsection (1) of this section or subsection (4) of this section, the following persons shall not be liable for remedial action costs incurred by the state or any other person that are attributable to or associated with a facility, or for damages for injury to or destruction of any natural resources caused by a release:

(a) A unit of state or local government that acquired ownership or control of a facility in the following ways:

(A) Involuntarily by virtue of its function as sovereign, including but not limited to escheat, bankruptcy, tax delinquency or abandonment; or

(B) Through the exercise of eminent domain authority by purchase or condemnation.

(b) A person who acquired a facility by inheritance or bequest.

(4) Notwithstanding the exclusions from liability provided for specified persons in subsections (2) and (3) of this section such persons shall be liable for remedial action costs incurred by the state or any other person that are attributable to or associated with a facility, and for damages for injury to or destruction of any natural resources caused by a release, to the extent that the person's acts or omissions contribute to such costs or damages, if the person:

(a) Obtained actual knowledge of the release and then failed to promptly notify the department and exercise due care with respect to the hazardous substance concerned, taking into consideration the characteristics of the hazardous substance in light of all relevant facts and circumstances; or

(b) Failed to take reasonable precautions against the reasonably foreseeable acts or omissions of a third party and the reasonably foreseeable consequences of such acts or omissions.

(5)(a) No indemnification, hold harmless, or similar agreement or conveyance shall be effective to transfer from any person who may be liable under this section, to any other person, the liability imposed under this section. Nothing in this section shall bar any agreement to insure, hold harmless or indemnify a party to such agreement for any liability under this section.

(b) A person who is liable under this section shall not be barred from seeking contribution from any other person for liability under ORS 466.540 to 466.590 and 466.900.

(c) Nothing in ORS 466.540 to 466.590 and 466.900 shall bar a cause of action that a person liable under this section or a guarantor has or would have by reason of subrogation or otherwise against any person.

(d) Nothing in this section shall restrict any right that the state or any person might have under federal statute, common law or other state statute to recover remedial action costs or to seek any other relief related to a release.

(g) To establish, for purposes of paragraph (b) of subsection (1) of this section or paragraph (a) of subsection (2) of this section, that the person did or did not have reason to know, the person must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice in an effort to minimize liability.

(7)(a) Except as provided in paragraph (b) of this subsection, no person shall be liable under ORS 466.540 to 466.590 and 466.900 for costs or damages as a result of actions taken or omitted in the course of rendering care, assistance or advice in accordance with rules adopted under ORS 466.553 or at the direction of the department or its authorized representative, with respect to an incident creating a danger to public health, safety, welfare or the environment as a result of any release of a hazardous substance. This paragraph shall not preclude liability for costs or damages as the result of negligence on the part of such person.

(b) No state or local government shall be liable under ORS 466.540 to 466.590 and 466.900 for costs or damages as a result of actions taken in response to an emergency created by the release of a hazardous substance generated by or from a facility owned by another person. This paragraph shall not preclude liability for costs or damages as a result of gross negligence or intentional misconduct by the state or local government. For the purpose of this paragraph, reckless, wilful or wanton misconduct shall constitute gross negligence.

(c) This subsection shall not alter the liability of any person covered by subsection (1) of this section. [1987 c.735 §10]

466.570 Removal or remedial action; reimbursement of costs. (1) The director may undertake any removal or remedial action necessary to protect the public health, safety, welfare and the environment.

(2) The director may authorize any person to carry out any removal or remedial action in accordance with any requirements of or directions from the director, if the director determines that the person will commence and complete removal or remedial action properly and in a timely manner.

(3) Nothing in ORS 466.540 to 466.590 and 466.900 shall prevent the director from taking any emergency removal or remedial action necessary to protect public health, safety, welfare or the environment.

(4) The director may require a person liable under ORS 466.567 to conduct any removal or remedial action or related actions necessary to protect the public health, safety, welfare and the environment. The director's action under this subsection may include but need not be limited to issuing an order specifying the removal or remedial action the person must take.

(5) The director may request the Attorney General to bring an action or proceeding for legal

or equitable relief, in the circuit court of the county in which the facility is located or in Marion County, as may be necessary:

(a) To enforce an order issued under subsection (4) of this section; or

(b) To abate any imminent and substantial danger to the public health, safety, welfare or the environment related to a release.

(6) Notwithstanding any provision of ORS 183.310 to 183.550, and except as provided in subsection (7) of this section, any order issued by the director under subsection (4) of this section shall not be appealable to the commission or subject to judicial review.

(7)(a) Any person who receives and complies with the terms of an order issued under subsection (4) of this section may, within 60 days after completion of the required action, petition the director for reimbursement from the fund for the reasonable costs of such action.

(b) If the director refuses to grant all or part of the reimbursement, the petitioner may, within 30 days of receipt of the director's refusal, file an action against the director seeking reimbursement from the fund in the circuit court of the county in which the facility is located or in the Circuit Court of Marion County. To obtain reimbursement, the petitioner must establish by a preponderance of the evidence that the petitioner is not liable under ORS 466.567 and that costs for which the petitioner seeks reimbursement are reasonable in light of the action required by the relevant order. A petitioner who is liable under ORS 466.567 may also recover reasonable remedial action costs to the extent that the petitioner can demonstrate that the director's decision in selecting the removal or remedial action ordered was arbitrary and capricious or otherwise not in accordance with law.

(8) If any person who is liable under ORS 466.567 fails without sufficient cause to conduct a removal or remedial action as required by an order of the director, the person shall be liable to the department for the state's remedial action costs and for punitive damages not to exceed three times the amount of the state's remedial action costs.

(9) Nothing in this section is intended to interfere with, limit or abridge the authority of the State Fire Marshal or any other state agency or local unit of government relating to an emergency that presents a combustion or explosion hazard. [1987 c.735 §11]

466.573 Standards for degree of cleanup required; exemption. (1)(a) Any

removal or remedial action performed under the provisions of ORS 466.540 to 466.590 and 466.900 shall attain a degree of cleanup of the hazardous substance and control of further release of the hazardous substance that assure protection of present and future public health, safety, welfare and of the environment.

(b) To the maximum extent practicable, the director shall select a remedial action that is protective of human health and the environment, that is cost effective, and that uses permanent solutions and alternative treatment technologies or resource recovery technologies.

(2) Except as provided in subsection (3) of this section, the director may exempt the onsite portion of any removal or remedial action conducted under ORS 466.540 to 466.590 and 466.900 from any requirement of ORS 466.005 to 466.385 and ORS chapter 459 or 468.

(3) Notwithstanding any provision of subsection (2) of this section, any onsite treatment, storage or disposal of a hazardous substance shall comply with the standard established under subsection (1) of this section. [1987 c.735 §12]

466.575. Notice of cleanup action; receipt and consideration of comment; notice of approval. Except as provided in ORS 466.570 (3), before approval of any remedial action to be undertaken by the department or any other person, or adoption of a certification decision under ORS 466.577, the department shall:

(1) Publish a notice and brief description of the proposed action in a local paper of general circulation and in the Secretary of State's Bulletin, and make copies of the proposal available to the public.

(2) Provide at least 30 days for submission of written comments regarding the proposed action, and, upon written request by 10 or more persons or by a group having 10 or more members, conduct a public meeting at or near the facility for the purpose of receiving verbal comment regarding the proposed action.

(3) Consider any written or verbal comments before approving the removal or remedial action.

(4) Upon final approval of the remedial action, publish notice, as provided under subsection (1) of this section, and make copies of the approved action available to the public. [1987 c.735 §13]

466.577 Agreement to perform removal or remedial action; reimbursement; agreement as order and consent decree; effect on liability. (1) The director, in the director's discretion, may enter into an agree-

ment with any person including the owner or operator of the facility from which a release emanates, or any other potentially responsible person to perform any removal or remedial action if the director determines that the actions will be properly done by the person. Whenever practicable and in the public interest, as determined by the director, the director, in order to expedite effective removal or remedial actions and minimize litigation, shall act to facilitate agreements under this section that are in the public interest and consistent with the rules adopted under ORS 466.553. If the director decides not to use the procedures in this section, the director shall notify in writing potentially responsible parties at the facility of such decision. Notwithstanding ORS 183.310 to 183.550, a decision of the director to use or not to use the procedures described in this section shall not be appealable to the commission or subject to judicial review.

(2)(a) An agreement under this section may provide that the director will reimburse the parties to the agreement from the fund, with interest, for certain costs of actions under the agreement that the parties have agreed to perform and the director has agreed to finance. In any case in which the director provides such reimbursement and, in the judgment of the director, cost recovery is in the public interest, the director shall make reasonable efforts to recover the amount of such reimbursement under ORS 466.540 to 466.590 and 466.900 or under other relevant authority.

(b) Notwithstanding ORS 183.310 to 183.550, the director's decision regarding fund financing under this subsection shall not be appealable to the commission or subject to judicial review.

(c) When a remedial action is completed under an agreement described in paragraph (a) of this subsection, the fund shall be subject to an obligation for any subsequent remedial action at the same facility but only to the extent that such subsequent remedial action is necessary by reason of the failure of the original remedial action. Such obligation shall be in a proportion equal to, but not exceeding, the proportion contributed by the fund for the original remedial action. The fund's obligation for such future remedial action may be met through fund expenditures or through payment, following settlement or enforcement action, by persons who were not signatories to the original agreement.

(3) If an agreement has been entered into under this section, the director may take any action under ORS 466.570 against any person who is not a party to the agreement, once the

period for submitting a proposal under paragraph (c) of subsection (5) of this section has expired. Nothing in this section shall be construed to affect either of the following:

(a) The liability of any person under ORS 466.567 or 466.570 with respect to any costs or damages which are not included in the agreement.

(b) The authority of the director to maintain an action under ORS 466.540 to 466.590 and 466.900 against any person who is not a party to the agreement.

(4)(a) Whenever the director enters into an agreement under this section with any potentially responsible person with respect to remedial action, following approval of the agreement by the Attorney General and except as otherwise provided in the case of certain administrative settlements referred to in subsection (8) of this section, the agreement shall be entered in the appropriate circuit court as a consent decree. The director need not make any finding regarding an imminent and substantial endangerment to the public health, safety, welfare or the environment in connection with any such agreement or consent decree.

(b) The entry of any consent decree under this subsection shall not be construed to be an acknowledgment by the parties that the release concerned constitutes an imminent and substantial endangerment to the public health, safety, welfare or the environment. Except as otherwise provided in the Oregon Evidence Code, the participation by any party in the process under this section shall not be considered an admission of liability for any purpose, and the fact of such participation shall not be admissible in any judicial or administrative proceeding, including a subsequent proceeding under this section.

(c) The director may fashion a consent decree so that the entering of the decree and compliance with the decree or with any determination or agreement made under this section shall not be considered an admission of liability for any purpose.

(d) The director shall provide notice and opportunity to the public and to persons not named as parties to the agreement to comment on the proposed agreement before its submittal to the court as a proposed consent decree, as provided under ORS 466.575. The director shall consider any written comments, views or allegations relating to the proposed agreement. The director or any party may withdraw, withhold or modify its consent to the proposed agreement if the comments, views and allegations concerning

the agreement disclose facts or considerations which indicate that the proposed agreement is inappropriate, improper or inadequate.

(5)(a) If the director determines that a period of negotiation under this subsection would facilitate an agreement with potentially responsible persons for taking removal or remedial action and would expedite removal or remedial action, the director shall so notify all such parties and shall provide them with the following information to the extent the information is available:

(A) The names and addresses of potentially responsible persons including owners and operators and other persons referred to in ORS 466.567.

(B) The volume and nature of substances contributed by each potentially responsible person identified at the facility.

(C) A ranking by volume of the substances at the facility.

(b) The director shall make the information referred to in paragraph (a) of this subsection available in advance of notice under this subsection upon the request of a potentially responsible person in accordance with procedures provided by the director. The provisions of ORS 466.565 (5) regarding confidential information apply to information provided under paragraph (a) of this subsection.

(c) Any person receiving notice under paragraph (a) of this subsection shall have 60 days from the date of receipt of the notice to submit to the director a proposal for undertaking or financing the action under ORS 466.570. The director may grant extensions for up to an additional 60 days.

(6)(a) Any person may seek contribution from any other person who is liable or potentially liable under ORS 466.567. In resolving contribution claims, the court may allocate remedial action costs among liable parties using such equitable factors as the court determines are appropriate.

(b) A person who has resolved its liability to the state in an administrative or judicially approved settlement shall not be liable for claims for contribution regarding matters addressed in the settlement. Such settlement does not discharge any of the other potentially responsible persons unless its terms so provide, but it reduces the potential liability of the others by the amount of the settlement.

(c)(A) If the state has obtained less than complete relief from a person who has resolved its liability to the state in an administrative or

judicially approved settlement, the director may bring an action against any person who has not so resolved its liability.

(B) A person who has resolved its liability to the state for some or all of a removal or remedial action or for some or all of the costs of such action in an administrative or judicially approved settlement may seek contribution from any person who is not party to a settlement referred to in paragraph (b) of this subsection.

(C) In any action under this paragraph, the rights of any person who has resolved its liability to the state shall be subordinate to the rights of the state.

(7)(a) In entering an agreement under this section, the director may provide any person subject to the agreement with a covenant not to sue concerning any liability to the State of Oregon under ORS 466.540 to 466.590 and 466.900, including future liability, resulting from a release of a hazardous substance addressed by the agreement if each of the following conditions is met:

(A) The covenant not to sue is in the public interest.

(B) The covenant not to sue would expedite removal or remedial action consistent with rules adopted by the commission under ORS 466.553 (2).

(C) The person is in full compliance with a consent decree under paragraph (a) of subsection (4) of this section for response to the release concerned.

(D) The removal or remedial action has been approved by the director.

(b) The director shall provide a person with a covenant not to sue with respect to future liability to the State of Oregon under ORS 466.540 to 466.590 and 466.900 for a future release of a hazardous substance from a facility, and a person provided such covenant not to sue shall not be liable to the State of Oregon under ORS 466.567 with respect to such release at a future time, for the portion of the remedial action:

(A) That involves the transport and secure disposition offsite of a hazardous substance in a treatment, storage or disposal facility meeting the requirements of section 3004(c) to (g), (m), (o), (p), (u) and (v) and 3005(c) of the federal Solid Waste Disposal Act, as amended, P.L. 96-482 and P.L. 98-616, if the director has rejected a proposed remedial action that is consistent with rules adopted by the commission under ORS 466.553 that does not include such offsite disposition and has thereafter required offsite disposition; or

(B) That involves the treatment of a hazardous substance so as to destroy, eliminate or permanently immobilize the hazardous constituents of the substance, so that, in the judgment of the director, the substance no longer presents any current or currently foreseeable future significant risk to public health, safety, welfare or the environment, no by-product of the treatment or destruction process presents any significant hazard to public health, safety, welfare or the environment, and all by-products are themselves treated, destroyed or contained in a manner that assures that the by-products do not present any current or currently foreseeable future significant risk to public health, safety, welfare or the environment.

(c) A covenant not to sue concerning future liability to the State of Oregon shall not take effect until the director certifies that the removal or remedial action has been completed in accordance with the requirements of subsection (10) of this section at the facility that is the subject of the covenant.

(d) In assessing the appropriateness of a covenant not to sue under paragraph (a) of this subsection and any condition to be included in a covenant not to sue under paragraph (a) or (b) of this subsection, the director shall consider whether the covenant or conditions are in the public interest on the basis of factors such as the following:

(A) The effectiveness and reliability of the remedial action, in light of the other alternative remedial actions considered for the facility concerned.

(B) The nature of the risks remaining at the facility.

(C) The extent to which performance standards are included in the order or decree.

(D) The extent to which the removal or remedial action provides a complete remedy for the facility, including a reduction in the hazardous nature of the substances at the facility.

(E) The extent to which the technology used in the removal or remedial action is demonstrated to be effective.

(F) Whether the fund or other sources of funding would be available for any additional removal or remedial action that might eventually be necessary at the facility.

(G) Whether the removal or remedial action will be carried out, in whole or in significant part, by the responsible parties themselves.

(e) Any covenant not to sue under this subsection shall be subject to the satisfactory per-

formance by such party of its obligations under the agreement concerned.

(f)(A) Except for the portion of the removal or remedial action that is subject to a covenant not to sue under paragraph (b) of this subsection or de minimis settlement under subsection (8) of this section, a covenant not to sue a person concerning future liability to the State of Oregon:

(i) Shall include an exception to the covenant that allows the director to sue the person concerning future liability resulting from the release or threatened release that is the subject of the covenant if the liability arises out of conditions unknown at the time the director certifies under subsection (10) of this section that the removal or remedial action has been completed at the facility concerned; and

(ii) May include an exception to the covenant that allows the director to sue the person concerning future liability resulting from failure of the remedial action.

(B) In extraordinary circumstances, the director may determine, after assessment of relevant factors such as those referred to in paragraph (d) of this subsection and volume, toxicity, mobility, strength of evidence, ability to pay, litigative risks, public interest considerations, precedential value and the inequities and aggravating factors, not to include the exception referred to in subparagraph (A) of paragraph (f) of this subsection if other terms, conditions or requirements of the agreement containing the covenant not to sue are sufficient to provide all reasonable assurances that public health, safety, welfare and the environment will be protected from any future release at or from the facility.

(C) The director may include any provisions allowing future enforcement action under ORS 466.570 that in the discretion of the director are necessary and appropriate to assure protection of public health, safety, welfare and the environment.

(8)(a) Whenever practicable and in the public interest, as determined by the director, the director shall as promptly as possible reach a final settlement with a potentially responsible person in an administrative or civil action under ORS 466.567 if such settlement involves only a minor portion of the remedial action costs at the facility concerned and, in the judgment of the director, both of the following are minimal in comparison to any other hazardous substance at the facility:

(A) The amount of the hazardous substance contributed by that person to the facility; and

(B) The toxic or other hazardous effects of the substance contributed by that person to the facility.

(b) The director may provide a covenant not to sue with respect to the facility concerned to any party who has entered into a settlement under this subsection unless such a covenant would be inconsistent with the public interest as determined under subsection (7) of this section.

(c) The director shall reach any such settlement or grant a covenant not to sue as soon as possible after the director has available the information necessary to reach a settlement or grant a covenant not to sue.

(d) A settlement under this subsection shall be entered as a consent decree or embodied in an administrative order setting forth the terms of the settlement. The circuit court for the county in which the release or threatened release occurs or the Circuit Court of Marion County may enforce any such administrative order.

(e) A party who has resolved its liability to the state under this subsection shall not be liable for claims for contribution regarding matters addressed in the settlement. The settlement does not discharge any of the other potentially responsible persons unless its terms so provide, but it reduces the potential liability of the others by the amount of the settlement.

(f) Nothing in this subsection shall be construed to affect the authority of the director to reach settlements with other potentially responsible persons under ORS 466.540 to 466.590 and 466.900.

(9)(a) Notwithstanding ORS 183.310 to 183.550, except for those covenants required under subparagraphs (A) and (B) of paragraph (b) of subsection (7) of this section, a decision by the director to agree or not to agree to inclusion of any covenant not to sue in an agreement under this section shall not be appealable to the commission or subject to judicial review.

(b) Nothing in this section shall limit or otherwise affect the authority of any court to review, in the consent decree process under subsection (4) of this section, any covenant not to sue contained in an agreement under this section.

(10)(a) Upon completion of any removal or remedial action under an agreement under this section, or pursuant to an order under ORS 466.570, the party undertaking the removal or remedial action shall notify the department and request certification of completion. Within 90 days after receiving notice, the director shall determine by certification whether the removal or remedial action is completed in accordance with the applicable agreement or order.

(b) Before submitting a final certification decision to the court that approved the consent

decree, or before entering a final administrative order, the director shall provide to the public and to persons not named as parties to the agreement or order notice and opportunity to comment on the director's proposed certification decision, as provided under ORS 466.575.

(c) Any person aggrieved by the director's certification decision may seek judicial review of the certification decision by the court that approved the relevant consent decree or, in the case of an administrative order, in the circuit court for the county in which the facility is located or in Marion County. The decision of the director shall be upheld unless the person challenging the certification decision demonstrates that the decision was arbitrary and capricious, contrary to the provisions of ORS 466.540 to 466.590 and 466.900 or not supported by substantial evidence. The court shall apply a presumption in favor of the director's decision. The court may award attorney fees and costs to the prevailing party if the court finds the challenge or defense of the director's decision to have been frivolous. The court may assess against a party and award to the state, in addition to attorney fees and costs, an amount equal to the economic gain realized by the party if the court finds the only purpose of the party's challenge to the director's decision was delay for economic gain. (1987 c.735 §14)

466.580 State costs; payment; effect of failure to pay. (1) The department shall keep a record of the state's remedial action costs.

(2) Based on the record compiled by the department under subsection (1) of this section, the department shall require any person liable under ORS 466.567 or 466.570 to pay the amount of the state's remedial action costs and, if applicable, punitive damages.

(3) If the state's remedial action costs and punitive damages are not paid by the liable person to the department within 45 days after receipt of notice that such costs and damages are due and owing, the Attorney General, at the request of the director, shall bring an action in the name of the State of Oregon in a court of competent jurisdiction to recover the amount owed, plus reasonable legal expenses.

(4) All moneys received by the department under this section shall be deposited in the Hazardous Substance Remedial Action Fund established under ORS 466.590 if the moneys received pertain to a removal or remedial action taken at any facility. (1987 c.735 §15)

466.583 Costs as lien; enforcement of lien. (1) All of the state's remedial action costs,

penalties and punitive damages for which a person is liable to the state under ORS 466.567, 466.570 or 466.900 shall constitute a lien upon any real and personal property owned by the person.

(2) At the department's discretion, the department may file a claim of lien on real property or a claim of lien on personal property. The department shall file a claim of lien on real property to be charged with a lien under this section with the recording officer of each county in which the real property is located and shall file a claim of lien on personal property to be charged with a lien under this section with the Secretary of State. The lien shall attach and become enforceable on the day of such filing. The lien claim shall contain:

- (a) A statement of the demand;
- (b) The name of the person against whose property the lien attaches;
- (c) A description of the property charged with the lien sufficient for identification; and
- (d) A statement of the failure of the person to conduct removal or remedial action and pay penalties and damages as required.

(3) The lien created by this section may be foreclosed by a suit on real and personal property in the circuit court in the manner provided by law for the foreclosure of other liens.

(4) Nothing in this section shall affect the right of the state to bring an action against any person to recover all costs and damages for which the person is liable under ORS 466.567, 466.570 or 466.900. (1987 c.735 §16)

466.585 Contractor liability. (1)(a) A person who is a contractor with respect to any release of a hazardous substance from a facility shall not be liable under ORS 466.540 to 466.590 and 466.900 or under any other state law to any person for injuries, costs, damages, expenses or other liability including but not limited to claims for indemnification or contribution and claims by third parties for death, personal injury, illness or loss of or damage to property or economic loss that result from such release.

(b) Paragraph (a) of this subsection shall not apply if the release is caused by conduct of the contractor that is negligent, reckless, wilful or wanton misconduct or that constitutes intentional misconduct.

(c) Nothing in this subsection shall affect the liability of any other person under any warranty under federal, state or common law. Nothing in this subsection shall affect the liability of an

employer who is a contractor to any employe of such employer under any provision of law, including any provision of any law relating to workers' compensation.

(d) A state employe or an employe of a political subdivision who provides services relating to a removal or remedial action while acting within the scope of the person's authority as a governmental employe shall have the same exemption from liability subject to the other provisions of this section, as is provided to the contractor under this section.

(2)(a) The exclusion provided by ORS 466.567 (2)(c)(C) shall not be available to any potentially responsible party with respect to any costs or damages caused by any act or omission of a contractor.

(b) Except as provided in paragraph (d) of subsection (1) of this section and paragraph (a) of this subsection, nothing in this section shall affect the liability under ORS 466.540 to 466.590 and 466.900 or under any other federal or state law of any person, other than a contractor.

(c) Nothing in this section shall affect the plaintiff's burden of establishing liability under ORS 466.540 to 466.590 and 466.900.

(3)(a) The director may agree to hold harmless and indemnify any contractor meeting the requirements of this subsection against any liability, including the expenses of litigation or settlement, for negligence arising out of the contractor's performance in carrying out removal or remedial action activities under ORS 466.540 to 466.590 and 466.900, unless such liability was caused by conduct of the contractor which was grossly negligent, reckless, wilful or wanton misconduct, or which constituted intentional misconduct.

(b) This subsection shall apply only to a removal or remedial action carried out under written agreement with:

(A) The director;

(B) Any state agency; or

(C) Any potentially responsible party carrying out any agreement under ORS 466.570 or 466.577.

(c) For purposes of ORS 466.540 to 466.590 and 466.900, amounts expended from the fund for indemnification of any contractor shall be considered remedial action costs.

(d) An indemnification agreement may be provided under this subsection only if the director determines that each of the following requirements are met:

(A) The liability covered by the indemnification agreement exceeds or is not covered by insurance available, at a fair and reasonable price, to the contractor at the time the contractor enters into the contract to provide removal or remedial action, and adequate insurance to cover such liability is not generally available at the time the contract is entered into.

(B) The contractor has made diligent efforts to obtain insurance coverage.

(C) In the case of a contract covering more than one facility, the contractor agrees to continue to make diligent efforts to obtain insurance coverage each time the contractor begins work under the contract at a new facility.

(4)(a) Indemnification under this subsection shall apply only to a contractor liability which results from a release of any hazardous substance if the release arises out of removal or remedial action activities.

(b) An indemnification agreement under this subsection shall include deductibles and shall place limits on the amount of indemnification to be made available.

(c)(A) In deciding whether to enter into an indemnification agreement with a contractor carrying out a written contract or agreement with any potentially responsible party, the director shall determine an amount which the potentially responsible party is able to indemnify the contractor. The director may enter into an indemnification agreement only if the director determines that the amount of indemnification available from the potentially responsible party is inadequate to cover any reasonable potential liability of the contractor arising out of the contractor's negligence in performing the contract or agreement with the party. In making the determinations required under this subparagraph related to the amount and the adequacy of the amount, the director shall take into account the total net assets and resources of the potentially responsible party with respect to the facility at the time the director makes the determinations.

(B) The director may pay a claim under an indemnification agreement referred to in subparagraph (A) of this paragraph for the amount determined under subparagraph (A) of this paragraph only if the contractor has exhausted all administrative, judicial and common law claims for indemnification against all potentially responsible parties participating in the cleanup of the facility with respect to the liability of the contractor arising out of the contractor's negligence in performing the contract or agreement with the parties. The indemnification agreement

shall require the contractor to pay any deductible established under paragraph (b) of this subsection before the contractor may recover any amount from the potentially responsible party or under the indemnification agreement.

(d) No owner or operator of a facility regulated under the federal Solid Waste Disposal Act, as amended, P.L. 96-482 and P.L. 98-616, may be indemnified under this subsection with respect to such facility.

(e) For the purposes of ORS 466.567, any amounts expended under this section for indemnification of any person who is a contractor with respect to any release shall be considered a remedial action cost incurred by the state with respect to the release.

(5) The exemption provided under subsection (1) of this section and the authority of the director to offer indemnification under subsection (3) of this section shall not apply to any person liable under ORS 466.567 with respect to the release or threatened release concerned if the person would be covered by the provisions even if the person had not carried out any actions referred to in subsection (6) of this section.

(6) As used in this section:

(a) "Contract" means any written contract or agreement to provide any removal or remedial action under ORS 466.540 to 466.590 and 466.900 at a facility, or any removal under ORS 466.540 to 466.590 and 466.900, with respect to any release of a hazardous substance from the facility or to provide any evaluation, planning, engineering, surveying and mapping, design, construction, equipment or any ancillary services thereto for such facility, that is entered into by a contractor as defined in subparagraph (A) of paragraph (b) of this subsection with:

(A) The director;

(B) Any state agency; or

(C) Any potentially responsible party carrying out an agreement under ORS 466.570 or 466.577.

(b) "Contractor" means:

(A) Any person who enters into a removal or remedial action contract with respect to any release of a hazardous substance from a facility and is carrying out such contract; and

(B) Any person who is retained or hired by a person described in subparagraph (A) of this paragraph to provide any services relating to a removal or remedial action.

(c) "Insurance" means liability insurance that is fair and reasonably priced, as determined by

the director, and that is made available at the time the contractor enters into the removal or remedial action contract to provide removal or remedial action. [1987 c.735 §17]

466.587 Monthly fee of operators. Beginning on July 1, 1987, every person who operates a facility for the purpose of disposing of hazardous waste or PCB that is subject to interim status or a license issued under ORS 466.005 to 466.385 and 466.890 shall pay a monthly hazardous waste management fee by the 45th day after the last day of each month in the amount of \$20 per ton of hazardous waste or PCB brought into the facility for treatment by incinerator or for disposal by landfill at the facility. [1987 c.735 §18]

466.590 Hazardous Substance Remedial Action Fund; sources; uses. (1) The Hazardous Substance Remedial Action Fund is established separate and distinct from the General Fund in the State Treasury.

(2) The following shall be deposited into the State Treasury and credited to the Hazardous Substance Remedial Action Fund:

(a) Fees received by the department under ORS 466.587.

(b) Moneys recovered or otherwise received from responsible parties for remedial action costs.

(c) Any penalty, fine or punitive damages recovered under ORS 466.567, 466.570, 466.583 or 466.900.

(3) The State Treasurer may invest and reinvest moneys in the Hazardous Substance Remedial Action Fund in the manner provided by law.

(4) The moneys in the Hazardous Substance Remedial Action Fund are appropriated continuously to the department to be used as provided in subsection (5) of this section.

(5) Moneys in the Hazardous Substance Remedial Action Fund may be used for the following purposes:

(a) Payment of the state's remedial action costs;

(b) Funding any action or activity authorized by ORS 466.540 to 466.590 and 466.900; and

(c) Providing the state cost share for a removal or remedial action, as required by section 104(c)(3) of the federal Comprehensive Environmental Response, Compensation and Liability Act, P.L. 96-510 and as amended by P.L. 99-499. [1987 c.735 §19]

**UNDERGROUND STORAGE TANKS
(General Provisions)**

**466.705 Definitions for ORS 466.705
to 466.835 and 466.895. As used in ORS
466.705 to 466.835 and 466.895:**

(1) "Corrective action" 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 action" includes but is not limited to:

(a) The prevention, elimination, removal, abatement, control, minimization, 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.

(2) "Decommission" means to remove from operation an underground storage tank, including temporary or permanent removal from operation, abandonment in place or removal from the ground.

(3) "Fee" means a fixed charge or service charge.

(4) "Guarantor" means any person other than the permittee who by guaranty, insurance, letter of credit or other acceptable device, provides financial responsibility for an underground storage tank as required under ORS 466.815.

(5) "Investigation" means monitoring, surveying, testing or other information gathering.

(6) "Local unit of government" means a city, county, special service district, metropolitan service district created under ORS chapter 268 or a political subdivision of the state.

(7) "Oil" means gasoline, crude oil, fuel oil, diesel oil, lubricating oil, sludge, oil refuse and any other petroleum related product or fraction thereof that is liquid at a temperature of 60 degrees Fahrenheit and a pressure of 14.7 pounds per square inch absolute.

(8) "Owner" means the owner of an underground storage tank.

(9) "Permittee" means the owner or a person designated by the owner who is in control of or has responsibility for the daily operation or maintenance of an underground storage tank under a permit issued pursuant to ORS 466.760.

(10) "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 and the Federal Government or any agency of the Federal Government.

(11) "Regulated substance" means:

(a) Any substance listed by the United States Environmental Protection Agency in 40 CFR

Table 302.4 pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (P.L. 96-510 and P.L. 98-80), but not including any substance regulated as a hazardous waste under 40 CFR Part 261 and OAR 340 Division 101;

(b) Oil; or

(c) Any other substance designated by the commission under ORS 466.630.

(12) "Release" means the discharge, deposit, injection, dumping, spilling, emitting, leaking or placing of a regulated substance from an underground storage tank 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.

(13) "Underground storage tank" means any one or combination of tanks and underground pipes connected to the tank, used to contain an accumulation of a regulated substance, and the volume of which, including the volume of the underground pipes connected to the tank, is 10 percent or more beneath the surface of the ground.

(14) "Waters of the state" has the meaning given that term in ORS 468.700. (1987 c.539 §2 (enacted in lieu of 468.901))

466.710 Application of ORS 466.705 to 466.835. ORS 466.705 to 466.835 and 466.895 shall not apply to a:

(1) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes.

(2) Tank used for storing heating oil for consumptive use on the premises where stored.

(3) Septic tank.

(4) Pipeline facility including gathering lines regulated:

(a) Under the Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. 1671);

(b) Under the Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. 2001); or

(c) As an intrastate pipeline facility under state laws comparable to the provisions of law referred to in paragraph (a) or (b) of this subsection.

(5) Surface impoundment, pit, pond or lagoon.

(6) Storm water or waste water collection system.

(7) Flow-through process tank.

(8) Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations.

(9) Storage tank situated in an underground area if the storage tank is situated upon or above the surface of a floor. As used in this subsection, "underground area" includes but is not limited to a basement, cellar, mine, drift, shaft or tunnel.

(10) Pipe connected to any tank described in subsections (1) to (8) of this section. [Formerly 468.911; 1987 c.539 §18]

466.715 Legislative findings. (1) The Legislative Assembly finds that:

(a) Regulated substances hazardous to the public health, safety, welfare and the environment are stored in underground tanks in this state; and

(b) Underground tanks used for the storage of regulated substances are potential sources of contamination of the environment and may pose dangers to the public health, safety, welfare and the environment.

(2) Therefore, the Legislative Assembly declares:

(a) It is the public policy of this state to protect the public health, safety, welfare and the environment from the potential harmful effects of underground tanks used to store regulated substances.

(b) It is the purpose of ORS 466.705 to 466.835 and 466.895 to enable the Environmental Quality Commission to adopt a state-wide program 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. [1987 c.539 §4 (enacted in lieu of 468.902)]

(Administration)

466.720 State-wide underground storage tank program; federal authorization.

(1) The Environmental Quality Commission shall adopt a state-wide underground storage tank program. Except as otherwise provided in ORS 466.705 to 466.835 and 466.895, the state-wide program shall establish uniform procedures and standards to protect the public health, safety, welfare and the environment from the consequences of a release from an underground storage tank.

(2) The commission and the department are authorized to perform or cause to be performed any act necessary to gain interim and final authorization of a state program for the regulation of underground storage tanks under the provisions of Section 9004 of the Federal Resource Conservation and Recovery Act, P.L. 94-580 as amended

and P.L. 98-616, Section 205 of the federal Solid Waste Disposal Act, P.L. 96-482 as amended and federal regulations and interpretive and guidance documents issued pursuant to P.L. 94-580 as amended, P.L. 98-616 and P.L. 96-482. The commission may adopt, amend or repeal any rule necessary to implement ORS 466.705 to 466.835 and 466.895. [Subsection (1) enacted as 1987 c.539 §6; subsection (2) formerly 468.913]

466.725 Limitation on local government regulation. (1) Except as provided in ORS 466.730, a local unit of government may not enact or enforce any ordinance, rule or regulation relating to the matters encompassed by the state program established under ORS 466.720.

(2) Any ordinance, rule or regulation enacted by a local unit of government of this state that encompasses the same matters as the state program shall be unenforceable, except for an ordinance, rule or regulation:

(a) That requires an owner or permittee to report a release to the local unit of government; or

(b) Adopted by a local unit of government operating an underground storage tank program pursuant to a contract entered into according to the provisions of ORS 466.730. [1987 c.539 §8 (enacted in lieu of 468.904)]

Note: Section 46, chapter 539, Oregon Laws 1987, provides:

Sec. 46. Section 8 of this Act [ORS 466.725] does not become operative until nine months after the Environmental Quality Commission adopts a state-wide underground storage tank program under section 6 of this Act [ORS 466.720] and has filed a copy of such rules with the Secretary of State as prescribed in ORS 183.310 to 183.550. [1987 c.539 §46]

466.730 Delegation of program administration to state agency or local government by agreement.

(1) The commission may authorize the department to enter into a contract or agreement with an agency of this state or a local unit of government to administer all or part of the underground storage tank program.

(2) Any agency of this state or any local unit of government that seeks to administer an underground storage tank program under this section shall submit to the department a description of the program the agency or local unit of government proposes to administer in lieu of all or part of the state program. The program description shall include at least the following:

(a) A description in narrative form of the scope, structure, coverage and procedures of the proposed program.

(b) A description, including organization charts, of the organization and structure of the

contracting state agency or local unit of government that will have responsibility for administering the program, including:

(A) The number of employes, occupation and general duties of each employe who will carry out the activities of the contract.

(B) An itemized estimate of the cost of establishing and administering the program, including the cost of personnel listed in subparagraph (A) of this paragraph and administrative and technical support.

(C) An itemization of the source and amount of funding available to the contracting state agency or local unit of government to meet the costs listed in subparagraph (B) of this paragraph, 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 the state agency or local unit of government intends to use 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 department, including the frequency of reporting and report content.

(H) A description of the procedures the state agency or local unit of government will use to comply with trade secret laws under ORS 192.500 and 468.910.

(3) Any program approved by the department under this section shall at all times be conducted in accordance with the requirements of ORS 466.705 to 466.835 and 466.895.

(4) An agency or local unit of government shall exercise the functions relating to underground storage tanks authorized under a contract or agreement entered into under this section according to the authority vested in the commission and the department under ORS 466.705 to 466.835 and 466.895 insofar as such authority is applicable to the performance under the contract or agreement. The agency or local unit of government shall carry out these functions in the manner provided for the commission and the department to carry out the same functions. [1987 c.539 §9]

466.735 Cooperation with Building Codes Agency and State Fire Marshal. Nothing in ORS 466.705 to 466.835 and 466.895 is intended to interfere with, limit or abridge the

authority of the Building Codes Agency or the State Fire Marshal, or any other state agency or local unit of government relating to combustion and explosion hazards, hazard communications or land use. The complementary relationship between the protection of the public safety from combustion and explosion hazards, and protection of the public health, safety, welfare and the environment from releases of regulated substances from underground storage tanks is recognized. Therefore, the department shall work cooperatively with the Building Codes Agency, the State Fire Marshal and local units of government in developing the rules and procedures necessary to carry out the provisions of ORS 466.705 to 466.835 and 466.895. [1987 c.539 §10]

466.740 Noncomplying installation prohibited. No person shall install an underground storage tank for the purpose of storing regulated substances unless the tank complies with the standards adopted under ORS 466.745 and any other rule adopted under ORS 466.705 to 466.835 and 466.895. [1987 c.539 §11]

Note: Section 47, chapter 539, Oregon Laws 1987, provides:

Sec. 47. Section 11 of this Act [ORS 466.740] does not become operative until the Environmental Quality Commission has adopted rules under section 13 of this Act [ORS 766.745] and has filed a copy of such rules with the Secretary of State, as prescribed in ORS 183.310 to 183.550. [1987 c.539 §47]

466.745 Commission rules; considerations. (1) The commission may establish by rule:

(a) Performance standards for leak detection systems, inventory control, tank testing or comparable systems or programs designed to detect or identify releases in a manner consistent with the protection of public health, safety, welfare or the environment;

(b) Requirements for maintaining records and submitting information to the department in conjunction with a leak detection or identification system or program used for each underground storage tank;

(c) Performance standards for underground storage tanks including but not limited to design, retrofitting, construction, installation, release detection and material compatibility;

(d) Requirements for the temporary or permanent decommissioning of an underground storage tank;

(e) Requirements for reporting a release from an underground storage tank;

(f) Requirements for a permit issued under ORS 466.760;

(g) Procedures that distributors of regulated substances and sellers of underground storage tanks must follow to satisfy the requirements of ORS 466.760;

(h) Acceptable methods by which an owner or permittee may demonstrate financial responsibility for responding to the liability imposed under ORS 466.815;

(i) Procedures for the disbursement of moneys collected under ORS 466.795;

(j) Requirements for reporting corrective action taken in response to a release;

(k) Requirements for taking corrective action in response to a release; and

(L) Any other rule necessary to carry out the provisions of ORS 466.705 to 466.835 and 466.895.

(2) The commission may adopt different requirements for different areas or regions of the state if the commission finds either of the following:

(a) More stringent rules or standards are necessary:

(A) To protect specific waters of the state, a sole source or sensitive aquifer or any other sensitive environmental amenity; or

(B) Because conditions peculiar to that area or region require different standards to protect public health, safety, welfare or the environment.

(b) Less stringent rules or standards are:

(A) Warranted by physical conditions or economic hardship;

(B) Consistent with the protection of the public health, safety, welfare or the environment; and

(C) Not less stringent than minimum federal requirements.

(3) The rules adopted by the commission under subsection (1) of this section may distinguish between types, classes and ages of underground storage tanks. In making such distinctions, the commission may consider the following factors:

(a) Location of the tanks;

(b) Soil and climate conditions;

(c) Uses of the tanks;

(d) History of maintenance;

(e) Age of the tanks;

(f) Current industry recommended practices;

(g) National consensus codes;

(h) Hydrogeology;

(i) Water table;

(j) Size of the tanks;

(k) Quantity of regulated substances periodically deposited in or dispensed from the tank;

(L) The technical ability of the owner or permittee; and

(m) The compatibility of the regulated substance and the materials of which the tank is fabricated.

(4) In adopting rules under subsection (1) of this section, the commission shall consider all relevant federal standards and regulations on underground storage tanks. If the commission adopts any standard or rule that is different than a federal standard or regulation on the same subject, the report submitted to the commission by the department at the time the commission adopts the standard or rule shall indicate clearly the deviation from the federal standard or regulation and the reasons for the deviation. [1987 c.539 §13 (enacted in lieu of 468.908)]

(Licenses; Permits)

466.750 License procedure for persons servicing underground tanks. (1) In order to safeguard the public health, safety and welfare, to protect the state's natural and biological systems, to protect the public from unlawful underground tank installation and retrofit procedures and to assure the highest degree of leak prevention from underground storage tanks, the commission may adopt a program to regulate persons providing underground storage tank installation and removal, retrofit, testing and inspection services.

(2) The program established under subsection (1) of this section may include a procedure to license persons who demonstrate, to the satisfaction of the department, the ability to service underground storage tanks. This demonstration of ability may consist of written or field examinations. The commission may establish different types of licenses for different types of demonstrations, including but not limited to:

(a) Installation, removal, retrofit and inspection of underground storage tanks;

(b) Tank integrity testing; and

(c) Installation of leak detection systems.

(3) The program adopted under subsection (1) of this section may allow the department after opportunity for hearing under the provisions of ORS 183.310 to 183.550, to revoke a license of any person offering underground tank services who commits fraud or deceit in obtaining a license or who demonstrates negligence or incompetence in performing underground tank services.

(4) The program adopted under subsection (1) of this section shall:

(a) Provide that no person may offer to perform or perform services for which a license is required under the program without such license.

(b) Establish a schedule of fees for licensing under the program. The fees shall be in an amount sufficient to cover the costs of the department in administering the program.

(5) The following persons shall 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 the operative date of this section; 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. [1987 c.539 §§14, 15]

Note: Section 48, chapter 539, Oregon Laws 1987, provides:

Sec. 48. Section 15 of this Act [ORS 466.750 (5)] does not become operative until 90 days after the Environmental Quality Commission has adopted rules under section 13 of this Act [ORS 466.745] and has filed a copy of such rules with the Secretary of State, as prescribed in ORS 183.310 to 183.550. [1987 c.539 §48]

466.760 When permit required; who required to sign application. (1) No person shall install, bring into operation, operate or decommission an underground storage tank without first obtaining a permit from the department.

(2) No person shall deposit a regulated substance into an underground storage tank unless the tank is operating under a permit issued by the department.

(3) Any person who assumes ownership of an underground storage tank from a previous permittee must complete and return to the department an application for a new permit before the person begins operation of the underground storage tank under the new ownership.

(4) Any person who deposits a regulated substance into an underground storage tank or sells an underground storage tank shall notify the owner or operator of the tank of the permit requirements of this section.

(5) The following persons must sign an application for a permit submitted to the department under this section or ORS 466.750 (5):

(a) The owner of an underground storage tank storing a regulated substance;

(b) The owner of the real property in which an underground storage tank is located; and

(c) The proposed permittee, if a person other than the owner of the underground storage tank or the owner of the real property. [1987 c.539 §16]

Note: Section 49, chapter 539, Oregon Laws 1987, provides:

Sec. 49. Section 16 of this Act [ORS 466.760] does not become operative until one year after the Environmental Quality Commission has adopted rules under section 13 of this Act [ORS 466.745] and has filed a copy of such rules with the Secretary of State, as prescribed in ORS 183.310 to 183.550. [1987 c.539 §49]

Note: Section 17, chapter 539, Oregon Laws 1987, provides:

Sec. 17. If the department is unable to issue a final permit before the operative date of section 16 of this 1987 Act [ORS 466.760], the department may issue a temporary or conditional permit. A temporary or conditional permit shall expire when the department grants or denies the final permit. A temporary or conditional permit does not authorize any activity, operation or discharge that violates any law or rule of the State of Oregon or the Department of Environmental Quality. [1987 c.539 §17]

466.765 Duty of owner or permittee of underground storage tank. In addition to any other duty imposed by law and pursuant to rules adopted under ORS 466.705 to 466.835 and 466.895, the owner or the permittee of an underground storage tank shall:

(1) Prevent releases;

(2) Install, operate and maintain underground storage tanks and leak detection devices and develop and maintain records in connection therewith in accordance with standards adopted and permits issued under ORS 466.705 to 466.835 and 466.895;

(3) Furnish information to the department relating to underground storage tanks, including information about tank equipment and regulated substances stored in the tanks;

(4) Promptly report releases;

(5) Conduct monitoring and testing as required by rules adopted under ORS 466.745 and permits issued under ORS 466.760;

(6) Permit department employes or a duly authorized and identified representative of the department at all reasonable times to have access to and to copy all records relating to underground storage tanks;

(7) Pay all costs of investigating, preventing, reporting and stopping a release;

(8) Decommission tanks, as required by rules adopted under ORS 466.745 and permits issued under ORS 466.760;

- (9) Pay all fees;
- (10) Conduct any corrective action required under ORS 466.810; and
- (11) Perform any other requirement adopted under ORS 466.540, 466.705 to 466.835, 466.895 and 478.308. [1987 c.539 §20 (enacted in lieu of 468.905)]

466.770 Corrective action required on contaminated site. (1) If any owner or permittee of a contaminated site fails without sufficient cause to conduct corrective action under ORS 466.765, the department may undertake any investigation or corrective action with respect to the contamination on the site.

(2) The department shall keep a record of all expenses incurred in carrying out any corrective action authorized under subsection (1) of this section, including charges for services performed and the state's equipment and materials utilized.

(3) Any owner or permittee of a contaminated site who fails without sufficient cause to conduct corrective action as required by an order of the department under ORS 466.810 shall be liable to the department for damages not to exceed three times the amount of all expenses incurred by the department in carrying out the necessary corrective action.

(4) Based on the record compiled by the department under subsection (2) of this section, the commission shall make a finding and enter an order against the person described in subsection (1) or (3) of this section for the amount of damages, not to exceed treble damages, and the expenses incurred by the state in carrying out the actions authorized by this section. The order may be appealed in the manner provided for appeal of a contested case order under ORS 183.310 to 183.550.

(5) If the amount of corrective action costs incurred by the department and damages under this section are not paid by the responsible person to the department within 15 days after receipt of notice that such expenses are due and owing, or, if an appeal is filed within 15 days after the court renders its decision if the decision affirms the order, the Attorney General, at the request of the director, shall bring an action in the name of the State of Oregon in a court of competent jurisdiction to recover the amount specified in the notice of the director.

(6) Subsection (5) of this section shall not apply if the department and the responsible person are negotiating or have entered into a settlement agreement, except that if the responsible person fails to pay the corrective action costs as provided in the negotiated settlement the direc-

tor may request the Attorney General to take action as set forth in subsection (5) of this section.

(7) All moneys received by the department under this section shall be paid into the fund established in ORS 466.790.

(8) As used in this section:

(a) "Contamination" means any abandoning, spilling, releasing, leaking, disposing, discharging, depositing, emitting, pumping, pouring, emptying, injecting, escaping, leaching, placing or dumping of a regulated substance from an underground storage tank into the air or on any lands or waters of the state, so that such regulated substance may enter the environment, be emitted into the air or discharged into any waters. Such contamination authorized by and in compliance with a permit issued under ORS chapter 454, 459, 468, 469, ORS 466.005 to 466.385 or federal law shall not be considered as contamination under ORS 466.540, 466.705 to 466.835, 466.895 and 478.308.

(b) "Site" means any area or land. [1987 c.539 §24]

466.775 Grounds for refusal, modification, suspension or revocation of permit. (1) The department may refuse to issue, modify, suspend, revoke or refuse to renew a permit if the department finds:

(a) A material misrepresentation or false statement in the application for the permit;

(b) Failure to comply with the conditions of the permit; or

(c) Violation of any applicable provision of ORS 466.705 to 466.835 and 466.895, any applicable rule or standard adopted under ORS 466.705 to 466.835 and 466.895 or an order issued under ORS 466.705 to 466.835 and 466.895.

(2) The department may modify a permit issued under ORS 466.760 if the department finds, after notice and opportunity for hearing, that modification is necessary to protect the public health, safety, welfare or the environment.

(3) The department shall modify, suspend, revoke or refuse to issue or renew a permit according to the provisions of ORS 183.310 to 183.550 for a contested case proceeding. [1987 c.539 §21]

466.780 Variance upon petition. (1) Upon petition by the owner and the permittee of an underground storage tank, the commission may grant a variance from the requirements of any rule or standard adopted under ORS 466.745 if the commission finds:

(a) The alternative proposed by the petitioner provides protection to the public health, safety, welfare and the environment, equal to or greater than the rule or standard; and

(b) The alternative proposal is at least as stringent as any applicable federal requirements.

(2) The commission may grant a variance under subsection (1) of this section only if the commission finds that strict compliance with the rule or standard is inappropriate because:

(a) Conditions exist that are beyond the control of the petitioner; or

(b) Special physical conditions or other circumstances render strict compliance unreasonable, burdensome or impracticable.

(3) The commission may delegate the authority to grant a variance to the department.

(4) Within 15 days after the department denies a petition for a variance, the petitioner may file with the commission a request for review by the commission. The commission shall review the petition for variance and the reasons for the department's denial of the petition within 150 days after the commission receives a request for review. The commission may approve or deny the variance or allow a variance on terms different than the terms proposed by the petitioner. If the commission fails to act on a denied petition within the 150-day period the variance shall be considered approved by the commission. [1987 c.539 §22]

(Finance)

466.785 Fees. (1) Fees may be required of every permittee of an underground storage tank. Fees shall be in an amount determined by the commission to be adequate to carry on the duties of the department or the duties of a state agency or local unit of government that has contracted with the department under ORS 466.730. Such fees shall not exceed \$25 per tank per year.

(2) Fees collected by the department under this section shall be deposited in the State Treasury to the credit of an account of the department. All fees paid to the department shall be continuously appropriated to the department to carry out the provisions of ORS 466.705 to 466.835 and 466.895. [1987 c.539 §23]

Note: The amendments to section 23, chapter 539, Oregon Laws 1987 [compiled as ORS 466.785], by section 50, chapter 539, Oregon Laws 1987, become effective July 1, 1989. See section 51, chapter 539, Oregon Laws 1987.

466.785. (1) Fees may be required of every permittee of an underground storage tank. Fees shall be in an amount determined by the commission to be adequate to carry on the

duties of the department or the duties of a state agency or local unit of government that has contracted with the department under ORS 466.730. Such fees shall not exceed \$20 per tank per year.

(2) Fees collected by the department under this section shall be deposited in the State Treasury to the credit of an account of the department. All fees paid to the department shall be continuously appropriated to the department to carry out the provisions of ORS 466.705 to 466.835 and 466.895.

466.790 Leaking Underground Storage Tank Cleanup Fund; sources; uses. (1) The Leaking Underground Storage Tank Cleanup Fund is established separate and distinct from the General Fund in the State Treasury.

(2) The following moneys, as they pertain to an underground storage tank, shall be deposited into the State Treasury and credited to the Leaking Underground Storage Tank Cleanup Fund:

(a) Moneys recovered or otherwise received from responsible parties for corrective action; and

(b) Any penalty, fine or damages recovered under ORS 466.770.

(3) The State Treasurer may invest and reinvest moneys in the Leaking Underground Storage Tank Cleanup Fund in the manner provided by law.

(4) The moneys in the Leaking Underground Storage Tank Cleanup Fund are appropriated continuously to the department to be used as provided in subsection (5) of this section.

(5) Moneys in the Leaking Underground Storage Tank Cleanup Fund may be used by the department for the following purposes:

(a) Payment of corrective action costs incurred by the department in responding to a release from underground storage tanks;

(b) Funding of all actions and activities authorized by ORS 466.770; and

(c) Payment of the state cost share for corrective action, as required by section 9003(h)(7)(B) of the federal Solid Waste Disposal Act, P.L. 96-482. [1987 c.539 §26]

466.795 Underground Storage Tank Insurance Fund. (1) The Underground Storage Tank Insurance Fund is established separate and distinct from the General Fund in the State Treasury to be used solely for the purpose of satisfying the financial responsibility requirements of ORS 466.815.

(2) Fees received by the department pursuant to subsection (6) of this section, shall be deposited into the State Treasury and credited to the Underground Storage Tank Insurance Fund.

(3) The State Treasurer may invest and reinvest moneys in the Underground Storage Tank Insurance Fund in the manner provided by law.

(4) The moneys in the Underground Storage Tank Insurance Fund are appropriated continuously to the department to be used as provided for in subsection (5) of this section.

(5) Moneys in the Underground Storage Tank Insurance Fund may be used by the department for the following purposes, as they pertain to underground storage tanks:

(a) Compensation to the department or any other person, for taking corrective actions; and

(b) Compensation to a third party for bodily injury and property damage caused by a release.

(6) The commission may establish an annual financial responsibility fee to be collected from an owner or permittee of an underground storage tank. The fee shall be in an amount determined by the commission to be adequate to meet the financial responsibility requirements established under ORS 466.815 and any applicable federal law.

(7) Before the effective date of any regulations relating to financial responsibility adopted by the United States Environmental Protection Act pursuant to P.L. 98-616 and P.L. 99-499, the department shall formulate a plan of action to be followed if it becomes necessary for the Underground Storage Tank Insurance Fund to become operative in order to satisfy the financial responsibility requirements of ORS 466.815. In formulating the plan of action, the department shall consult with the Director of the Department of Insurance and Finance, owners and permittees of underground storage tanks and any other interested party. The plan of action must be reviewed by the Legislative Assembly or the Emergency Board before implementation. [1987 c.539 §28]

466.800 Records as public records; exceptions. (1) Except as provided in subsection (2) of this section, any records, reports or information obtained from any persons under ORS 466.765 and 466.805 shall be made available for public inspection and copying during the regular office hours of the department at the expense of any person requesting copies.

(2) Unless classified by the director as confidential, any records, reports or information obtained under ORS 466.705 to 466.835 and 466.895 shall be available to the public. Upon a showing satisfactory to the director by any person that records, reports or information, or particular parts thereof, if made public, would divulge methods, processes or information

entitled to protection as trade secrets under ORS 192.501 to 192.505, the director shall classify as confidential such record, report or information, or particular part thereof. However, such record, report or information may be disclosed to any other officer, medical or public safety employe or authorized representative of the state concerned with carrying out ORS 466.705 to 466.835 and 466.895 or when relevant in any proceeding under ORS 466.705 to 466.835 and 466.895.

(3) Any record, report or information obtained or used by the department or the commission in administering the state-wide underground storage tank program under ORS 466.705 to 466.835 and 466.895 shall be available to the United States Environmental Protection Agency upon request. If the record, report or information has been submitted to the state under a claim of confidentiality, the state shall make that claim of confidentiality to the Environmental Protection Agency for the requested record, report or information. The federal agency shall treat the record, report or information subject to the confidentiality claim as confidential in accordance with applicable federal law. [Formerly 468.910]

(Enforcement)

466.805 Site inspection; subpoena or warrant. (1) In order to determine compliance with the provisions of ORS 466.705 to 466.835 and 466.895 and rules adopted under ORS 466.705 to 466.835 and 466.895 and to enforce the provisions of ORS 466.705 to 466.835 and 466.895, any employes of or an authorized and identified representative of the department may:

(a) Enter at reasonable times any establishment or site where an underground storage tank is located;

(b) Inspect and obtain samples of a regulated substance contained in an underground storage tank; and

(c) Conduct an investigation of an underground storage tank, associated equipment, contents or the soil, air or waters of the state surrounding an underground storage tank.

(2) If any person refuses to comply with subsection (1) of this section, the department or a duly authorized and identified representative of the department may obtain a warrant or subpoena to allow such entry, inspection, sampling or copying. [1987 c.539 §30 (enacted in lieu of 468.907)]

466.810 Investigation on non-compliance; findings and orders; decommissioning tank; hearings; other remedies. (1) Whenever the department has reasonable

cause to believe that an underground storage tank or the operation of an underground storage tank violates ORS 466.705 to 466.835 and 466.895 or fails to comply with a rule, order or permit issued under ORS 466.705 to 466.835 and 466.895, the department may investigate the underground storage tank.

(2) After the department investigates an underground storage tank under subsection (1) of this section, the department may, without notice or hearing, make such findings and issue such orders as it considers necessary to protect the public health, safety, welfare or the environment.

(3) The findings and orders made by the department under subsection (2) of this section may:

(a) Require changes in the operation, practices or operating procedures found to be in violation of ORS 466.705 to 466.835 and 466.895 or the rules adopted under ORS 466.705 to 466.835 and 466.895;

(b) Require the owner or operator to comply with the provisions of a permit;

(c) Require compliance with a schedule established in the order; and

(d) Require any other actions considered necessary by the department.

(4) After the department issues an order under subsection (2) of this section, the department may decommission the underground storage tank or contract with another person to decommission the underground storage tank.

(5) The department shall serve a certified copy of any order issued by it under subsection (2) of this section to the permittee or the permittee's duly authorized representative at the address furnished to the department in the permit application or other address as the department knows to be used by the permittee. The order shall take effect 20 days after the date of its issuance, unless the permittee requests a hearing on the order before the commission. The request for a hearing shall be submitted in writing within 20 days after the department issues the order.

(6) All hearings before the commission or its hearing officer shall be conducted according to applicable provisions of ORS 183.310 to 183.550 for contested cases.

(7) Whenever it appears to the department that any person is engaged or about to engage in any act or practice that constitutes a violation of ORS 466.705 to 466.835 and 466.895 or the rules and orders adopted under ORS 466.705 to 466.835 and 466.895 or of the terms of any permit issued under ORS 466.705 to 466.835 and

466.895, the department, without prior administrative hearing, may institute actions or proceedings for legal or equitable remedies to enforce compliance therewith or to restrain further violations thereof. [1987 c.539 §32]

466.815 Financial responsibility of owner or permittee. (1) The commission may by rule require an owner or permittee to demonstrate and maintain financial responsibility for:

(a) Taking corrective action;

(b) Compensating a third party for bodily injury and property damage caused by a release; and

(c) Compensating the department, or any other person, for expenses incurred by the department or any other person in taking corrective action.

(2) The financial responsibility requirements established by subsection (1) of this section may be satisfied by insurance, guarantee by third party, surety bond, letter of credit or qualification as a self-insurer or any combination of these methods. In adopting rules under subsection (1) of this section, the commission may specify policy or other contractual terms, conditions or defenses necessary or unacceptable to establish evidence of financial responsibility.

(3) If an owner or permittee is in bankruptcy, reorganization or arrangement pursuant to the federal bankruptcy law, or if jurisdiction in any state or federal court cannot be obtained over either an owner or a permittee likely to be solvent at the time of judgment, any claim arising from conduct for which evidence of financial responsibility must be provided under this section may be asserted directly against the guarantor. In the case of action under paragraph (b) of subsection (1) of this section, the guarantor is entitled to invoke all rights and defenses that would have been available to the owner or permittee if the action had been brought against the owner or permittee by the claimant and all rights and defenses that would have been available to the guarantor if the action had been brought against the guarantor by the owner or permittee.

(4) The total liability of a guarantor shall be limited to the aggregate amount the guarantor provided as evidence of financial responsibility to the owner or permittee under subsection (2) of this section. This subsection does not limit any other state or federal statutory, contractual or common law liability of the guarantor for bad faith in negotiating or in failing to negotiate the settlement of any claim. This subsection does not diminish the liability of any person under section

107 or 111 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, or other applicable law.

(5) Corrective action and compensation programs financed by a fee paid by owners and permittees and administered by the department may be used to satisfy all or part of the financial responsibility requirements of this section.

(6) No rule requiring an owner or permittee to demonstrate and maintain financial responsibility shall be adopted by the commission before review by the appropriate legislative committee as determined by the President of the Senate and the Speaker of the House of Representatives. [1987 c.539 §27]

466.820 Reimbursement to department; procedure for collection; treble damages. (1) The owner and the permittee of an underground storage tank found to be in violation of any provision of ORS 466.705 to 466.835 and 466.895, shall reimburse the department for all costs reasonably incurred by the department, excluding administrative costs, in the investigation of a leak from an underground storage tank. Department costs may include investigation, design engineering, inspection and legal costs necessary to correct the leak.

(2) Payment of costs to the department under subsection (1) of this section shall be made to the department within 15 days after the end of the appeal period or, if an appeal is filed, within 15 days after the court or the commission renders its decision, if the decision affirms the order.

(3) If such costs are not paid by the owner or the permittee of the underground storage tank to the department within the time provided in subsection (2) of this section, the Attorney General, upon the request of the director, shall bring action in the name of the State of Oregon in the Circuit Court of Marion County or the circuit court of any other county in which the violation may have taken place to recover the amount specified in the order of the department.

(4) In addition to any other penalty provided by law, if any person is found in violation of any provision of ORS 466.540, 466.705 to 466.835, 466.895 and 478.308, the commission or the court may award damages in the amount equal to three times the amount of all expenses incurred by the department in investigating the violation.

(5) Moneys reimbursed shall be deposited to the State Treasury to the credit of an account of the department and are continuously appropriated to the department for the purposes of administering ORS 466.540, 466.705 to 466.835,

466.895 and 478.308. [1987 c.539 §34 (enacted in lieu of 468.914)]

466.825 Strict liability of owner or permittee. The owner and permittee of an underground storage tank found to be the source of a release shall be strictly liable to any owner or permittee of a nonleaking underground storage tank in the vicinity, for all costs reasonably incurred by such nonleaking underground storage tank owner or permittee in determining which tank was the source of the release. [1987 c.539 §35]

466.830 Halting tank operation upon clear and immediate danger. (1) Whenever, in the judgment of the department from the results of monitoring or observation of an identified release, there is reasonable cause to believe that a clear and immediate danger to the public health, welfare, safety or the environment exists from the continued operation of an underground storage tank, the department may, without hearing or prior notice, order the operation of the underground storage tank or site halted by service of an order on the owner or permittee of the underground storage tank or site.

(2) Within 24 hours after the order is served under subsection (1) of this section, the department shall appear in the appropriate circuit court to petition for the equitable relief required to protect the public health, safety, welfare or the environment. [1987 c.539 §36]

466.835 Compliance and correction costs as lien; enforcement. (1) All compliance and corrective action costs, penalties and damages for which a person is liable to the state under ORS 466.705 to 466.835 and 466.895 shall constitute a lien upon any real and personal property owned by the person.

(2) The department shall file a claim of lien on real property to be charged with a lien under subsection (1) of this section with the recording officer of each county in which the real property is located and shall file a claim of lien on personal property to be charged with a lien under subsection (1) of this section with the Secretary of State. The lien shall attach and become enforceable on the date of the filing. The lien claim shall contain:

(a) A statement of the demand;

(b) The name of the person against whose property the lien attaches;

(c) A description of the property charged with the lien sufficient for identification; and

(d) A statement of the failure of the person to conduct compliance and corrective actions as required.

(3) A lien created by this section may be foreclosed by a suit on real and personal property in the circuit court in the manner provided by law for the foreclosure of liens.

(4) Nothing in this section shall affect the right of the state to bring an action against any person to recover all costs and damages for which a person is liable under the provisions of ORS 466.705 to 466.835 and 466.895. [1987 c.539 §37]

OREGON HANFORD WASTE BOARD

Note: Sections 1 to 16, chapter 514 Oregon Laws 1987, provide:

Sec. 1. (1) The Legislative Assembly finds and declares that Oregon is not assured that the United States Department of Energy will:

(a) Consider the unique features of Oregon and the needs of the people of Oregon when assessing Hanford, Washington, as a potentially suitable location for the long-term disposal of high-level radioactive waste; or

(b) Insure adequate opportunity for public participation in the assessment process.

(2) Therefore, the Legislative Assembly declares that it is in the best interests of the State of Oregon to establish an Oregon Hanford Waste Board to serve as a focus for the State of Oregon in the development of a state policy to be presented to the Federal Government, to insure a maximum of public participation in the assessment process. [1987 c.514 §1]

Sec. 2. Nothing in sections 1 to 16 of this Act shall be interpreted by the Federal Government or the United States Department of Energy as an expression by the people of Oregon to accept Hanford, Washington, as the site for the long-term disposal of high-level radioactive waste. [1987 c.514 §2]

Sec. 3. As used in sections 1 to 16 of this Act:

(1) "Board" means the Oregon Hanford Waste Board.

(2) "High-level radioactive waste" means fuel or fission products from a commercial nuclear reactor after irradiation that is packaged and prepared for disposal.

(3) "United States Department of Energy" means the federal Department of Energy established under 42 U.S.C.A. 7131 or any successor agency assigned responsibility for the long-term disposal of high-level radioactive waste. [1987 c.514 §3]

Sec. 4. There is created an Oregon Hanford Waste Board which shall consist of the following members:

(1) The Director of the Oregon Department of Energy or designee;

(2) The Water Resources Director or designee;

(3) The Director of the Department of Environmental Quality or designee;

(4) The Assistant Director for Health or designee;

(5) The State Geologist or designee;

(6) A representative of the Public Utility Commission who has expertise in motor carriers;

(7) A representative of the Governor;

(8) One member representing the Confederated Tribes of the Umatilla Indian Reservation;

(9) One member of the public, appointed by the Governor subject to confirmation by the Senate in the manner provided in ORS 171.502 and 171.565, who shall serve as chairperson;

(10) Two members of the public advisory committee created under section 9 of this Act, selected by the public advisory committee; and

(11) Three members of the Senate, appointed by the President of the Senate, and three members of the House of Representatives, appointed by the Speaker of the House of Representatives who shall serve as advisory members without vote. [1987 c.514 §4]

Sec. 5. (1) Each member of the Oregon Hanford Waste Board shall serve at the pleasure of the appointing authority. For purposes of this subsection, for those members of the board selected by the public advisory committee, the appointing authority shall be the public advisory committee.

(2) Each public member of the board shall receive compensation and expenses as provided in ORS 292.495. Each legislative member shall receive compensation and expenses as provided in ORS 171.072.

(3) The board shall be under the supervision of the chairperson. [1987 c.514 §5]

Sec. 6. The Oregon Hanford Waste Board:

(1) Shall serve as the focal point for all policy discussions within the state government concerning the disposal of high-level radioactive waste in the northwest region.

(2) Shall recommend a state policy to the Governor and to the Legislative Assembly.

(3) After consultation with the Governor, may make policy recommendations on other issues related to the United States Hanford Reservation at Richland, Washington, including but not limited to defense wastes, disposal and treatment of chemical waste and plutonium production. [1987 c.514 §6]

Sec. 7. In carrying out its purpose as set forth in section 6 of this Act, the Oregon Hanford Waste Board shall:

(1) Serve as the initial agency in this state to be contacted by the United States Department of Energy or any other federal agency on any matter related to the long-term disposal of high-level radioactive waste.

(2) Serve as the initial agency in this state to receive any report, study, document, information or notification of proposed plans from the Federal Government on any matter related to the long-term disposal of high-level radioactive waste. Notification of proposed plans includes notification of proposals to conduct field work, onsite evaluation or onsite testing.

(3) Disseminate or arrange with the United States Department of Energy or other federal agency to disseminate the information received under subsection (2) of this section to appropriate state agencies, local governments, regional planning commissions, American Indian tribal governing bodies, the general public and interested citizen groups who have requested in writing to receive this information.

(4) Recommend to the Governor and Legislative Assembly appropriate responses to contacts under subsection (1) of

this section and information received under subsection (2) of this section if a response is appropriate. The board shall consult with the appropriate state agency, local government, regional planning commission, American Indian tribal governing body, the general public and interested citizen groups in preparing this response.

(5) Promote and coordinate educational programs which provide information on the nature of high-level radioactive waste, the long-term disposal of this waste, the activities of the board, the activities of the United States Department of Energy and any other federal agency related to the long-term disposal of high-level radioactive waste and the opportunities of the public to participate in procedures and decisions related to this waste.

(6) Review any application to the United States Department of Energy or other federal agency by a state agency, local government or regional planning commission for funds for any program related to the long-term disposal of high-level radioactive waste. If the board finds that the application is not consistent with the state's policy related to such waste or that the application is not in the best interest of the state, the board shall forward its findings to the Governor and the appropriate legislative committee. If the board finds that the application of a state agency is not consistent with the state's policy related to long-term disposal of high-level radioactive waste or that the application of a state agency is not in the best interest of the state, the findings forwarded to the Governor and legislative committee shall include a recommendation that the Governor act to stipulate conditions for the acceptance of the funds which are necessary to safeguard the interests of the state.

(7) Monitor activity in Congress and the Federal Government related to the long-term disposal of high-level radioactive waste.

(8) If appropriate, advise the Governor and the Legislative Assembly to request the Attorney General to intervene in federal proceedings to protect the state's interests and present the state's point of view on matters related to the long-term disposal of high-level radioactive waste. [1987 c.514 §7]

Sec. 8. The chairperson of the Oregon Hanford Waste Board shall:

(1) Supervise the day-to-day functions of the board;

(2) Hire, assign, reassign and coordinate the administrative personnel of the board, prescribe their duties and fix their compensation, subject to the State Personnel Relations Law; and

(3) Request technical assistance from any other state agency. [1987 c.514 §8]

Sec. 9. (1) There is created a public advisory committee which shall consist of not less than 15 members to advise the Oregon Hanford Waste Board on the development and administration of the policies and practices of the board. Members shall be appointed by the Governor and shall serve a term of two years.

(2) Advisory committee members shall be selected from all areas of the state and shall include a broad range of citizens, representatives of local governments and representatives of other interests as the Governor determines will best further the purposes of this Act.

(3) Members of the advisory committee shall receive no compensation for their services. Members of the advisory committee other than members employed in full-time public service shall be reimbursed for their actual and necessary expenses incurred in the performance of their duties. Such reimbursements shall be subject to the provisions of ORS 292.210 to 292.288. Members of the advisory committee who are employed in full-time public service may be reimbursed for their actual and necessary expenses incurred in the performance of their duties by their employing agency.

(4) The advisory committee shall meet at least once every three months. [1987 c.514 §9]

Sec. 10. (1) If the United States Department of Energy selects Hanford, Washington, as the site for the construction of a repository for the long-term disposal of high-level radioactive waste, the Oregon Hanford Waste Board shall review the selected site and the site plan prepared by the United States Department of Energy. In conducting its review the board shall:

(a) Include a full scientific review of the adequacy of the selected site and of the site plan;

(b) Use recognized experts;

(c) Conduct one or more public hearings on the site plan;

(d) Make available to the public arguments and evidence for and against the site plan; and

(e) Solicit comments from appropriate state agencies, local governments, regional planning commissions, American Indian tribal governing bodies, the general public and interested citizen groups on the adequacy of the Hanford site and the site plan.

(2) After completing the review under subsection (1) of this section, the board shall submit a recommendation to the Speaker of the House of Representatives, the President of the Senate and the Governor on whether the state should accept the Hanford site. [1987 c.514 §10]

Sec. 11. (1) In addition to any other duty prescribed by law and subject to the policy direction of the board, a lead agency designated by the Governor shall negotiate written agreements and modifications to those agreements, with the United States Department of Energy or any other federal agency or state on any matter related to the long-term disposal of high-level radioactive waste.

(2) Any agreement or modification to an agreement negotiated by the agency designated by the Governor under subsection (1) of this section shall be consistent with the policy expressed by the Governor and the Legislative Assembly as developed by the Oregon Hanford Waste Board.

(3) The Oregon Hanford Waste Board shall make recommendations to the agency designated by the Governor under subsection (1) of this section concerning the terms of agreements or modifications to agreements negotiated under subsection (1) of this section. [1987 c.514 §11]

Sec. 12. The Oregon Hanford Waste Board shall implement agreements, modifications and technical revisions approved by the agency designated by the Governor under section 11 of this Act. In implementing these agreements, modifications and revisions, the board may solicit the views of any appropriate state agency, local government, regional planning commission, American Indian tribal governing body, the general public and interested citizen groups. [1987 c.514 §12]

Sec. 13. The Oregon Hanford Waste Board may accept moneys from the United States Department of Energy, other federal agencies, the State of Washington and from gifts and grants received from any other person. Such moneys are continuously appropriated to the board for the purpose of carrying out the provisions of this Act. The board shall establish by rule a method for disbursing such funds as necessary to carry out the provisions of sections 1 to 16 of this Act, including but not limited to awarding contracts for studies pertaining to the long-term disposal of radioactive waste. Any disbursement of funds by the board or the lead agency shall be consistent with the policy established by the board under section 6 of this Act. [1987 c.514 §13]

Sec. 14. In addition to the public advisory committee established under section 9 of this Act, the Oregon Hanford Waste Board may establish any advisory and technical committee it considers necessary. Members of any advisory or technical committee established under this section may receive reimbursement for travel expenses incurred in the performance of their duties in accordance with ORS 292.495. [1987 c.514 §14]

Sec. 15. All departments, agencies and officers of this state and its political subdivisions shall cooperate with the Oregon Hanford Waste Board in carrying out any of its activities under sections 1 to 16 of this Act and, at the request of the chairperson, provide technical assistance to the board. [1987 c.514 §15]

Sec. 16. In accordance with the applicable provisions of ORS 183.310 to 183.550, the Oregon Hanford Waste Board shall adopt rules and standards to carry out the requirements of sections 1 to 16 of this Act. [1987 c.514 §16]

FEDERAL SITE SELECTION

Note: Sections 1 and 2, chapter 13, Oregon Laws 1987, provide:

Sec. 1. The Legislative Assembly and the people of the State of Oregon find that:

(1) In order to solve the problem of high-level radioactive waste disposal, Congress established a process for selecting two sites for the safe, permanent and regionally equitable disposal of such waste.

(2) The process of selecting three sites as final candidates, including the Hanford reservation in the State of Washington, for a first high-level nuclear waste repository by the United States Department of Energy violated the intent and the mandate of Congress.

(3) The United States Department of Energy has prematurely deferred consideration of numerous potential sites and disposal media that its own research indicates are more appropriate, safer and less expensive.

(4) Placement of a repository at Hanford without methodical and independently verified scientific evaluation threatens the health and safety of the people and the environment of this state.

(5) The selection process is flawed and not credible because it did not include independent experts in the selection of the sites and in the review of the selected sites, as recommended by the National Academy of Sciences.

(6) By postponing indefinitely all site specific work for an eastern repository, the United States Department of Energy has not complied with the intent of Congress expressed in the Nuclear Waste Policy Act, Public Law 97-425, and the fundamental compromise which enabled its enactment. [1987 c.13 §1]

Sec. 2. In order to achieve complete compliance with federal law and protect the health, safety and welfare of the people of the State of Oregon, the Legislative Assembly, other state-wide officials and state agencies shall use all legal means necessary to:

(1) Suspend the preliminary site selection process for a high-level nuclear waste repository, including the process of site characterization, until there is compliance with the intent of the Nuclear Waste Policy Act;

(2) Reverse the Secretary of Energy's decision to postpone indefinitely all site specific work on locating and developing an eastern repository for high-level nuclear waste;

(3) Insist that the United States Department of Energy's site selection process, when resumed, considers all acceptable geologic media and results in safe, scientifically justified and regionally and geographically equitable high-level nuclear waste disposal;

(4) Demand that federal budget actions fully and completely follow the intent of the Nuclear Waste Policy Act;

(5) Continue to pursue alliances with other states and interested parties, particularly with Pacific Northwest Governors, legislatures and other parties, affected by the site selection process and transportation of high-level nuclear waste; and

(6) Assure that Oregon, because of its close geographic and geologic proximity to the proposed Hanford site, be accorded the same status under federal law as a state in which a high-level nuclear repository is proposed to be located. [1987 c.13 §2]

CIVIL PENALTIES

466.880 Civil penalties generally. (1) In addition to any other penalty provided by law, any person who violates ORS 466.005 to 466.385 and 466.890, a license condition or any commission rule or order pertaining to the generation, treatment, storage, disposal or transportation by air or water of hazardous waste, as defined by ORS 466.005, shall incur a civil penalty not to exceed \$10,000 for each day of the violation.

(2) The civil penalty authorized by subsection (1) of this section shall be established, imposed, collected and appealed in the same manner as civil penalties are established, imposed and collected under ORS 448.305, 454.010 to 454.040, 454.205 to 454.255, 454.405, 454.425, 454.505 to 454.535, 454.605 to 454.745 and ORS chapter 468.

(3) In addition to any other penalty provided by law, any person who violates a provision of ORS 466.605 to 466.680, or any rule or order

entered or adopted under ORS 466.605 to 466.680, may incur a civil penalty not to exceed \$10,000. Each day of violation shall be considered a separate offense.

(4) The civil penalty authorized by subsection (3) of this section shall be established, imposed, collected and appealed in the same manner as civil penalties are established, imposed, collected and appealed under ORS 468.090 to 468.130, except that a penalty collected under this section shall be deposited to the fund established in ORS 466.670. [Formerly 459.995; (3) and (4) enacted by 1985 c.733 §17; 1987 c.266 §1]

466.890 Civil penalties for damage to wildlife resulting from contamination of food or water supply. (1) Any person who has care, custody or control of a hazardous waste or a substance which would be a hazardous waste except for the fact that it is not discarded, useless or unwanted shall incur a civil penalty according to the schedule set forth in subsection (2) of this section for the destruction, due to contamination of food or water supply by such waste or substance, of any of the wildlife referred to in subsection (2) of this section that are the property of the state.

(2) The penalties referred to in subsection (1) of this section shall be as follows:

(a) Each game mammal other than mountain sheep, mountain goat, elk or silver gray squirrel, \$400.

(b) Each mountain sheep or mountain goat, \$3,500.

(c) Each elk, \$750.

(d) Each silver gray squirrel, \$10.

(e) Each game bird other than wild turkey, \$10.

(f) Each wild turkey, \$50.

(g) Each game fish other than salmon or steelhead trout, \$5.

(h) Each salmon or steelhead trout, \$125.

(i) Each fur-bearing mammal other than bobcat or fisher, \$50.

(j) Each bobcat or fisher, \$350.

(k) Each specimen of any wildlife species whose survival is specified by the wildlife laws or the laws of the United States as threatened or endangered, \$500.

(L) Each specimen of any wildlife species otherwise protected by the wildlife laws or the laws of the United States, but not otherwise referred to in this subsection, \$25.

(3) The civil penalty imposed under this section shall be in addition to other penalties prescribed by law. [1985 c.685 §2]

466.895 Civil penalties for violations of underground storage tank regulations.

(1) Any person who violates any provision of ORS 466.705 to 466.835 and 466.895, a rule adopted under ORS 466.705 to 466.835 and 466.895 or the terms or conditions of any order or permit issued by the department under ORS 466.705 to 466.835 and 466.895 shall be subject to a civil penalty not to exceed \$10,000 per violation per day of violation.

(2) Each violation may be a separate and distinct offense and in the case of a continuing violation, each day's continuance thereof may be deemed a separate and distinct offense.

(3) The department may levy a civil penalty up to \$100 for each day a fee due and owing under ORS 466.785 and 466.795 is unpaid. A penalty collected under this subsection shall be placed in the State Treasury to the credit of an account of the department.

(4) The civil penalties authorized under this section shall be established, imposed, collected and appealed in the same manner as civil penalties are established, imposed, collected and appealed under ORS 468.090 to 468.125 and 468.135 except that a penalty collected under this section shall be deposited to the fund established in ORS 466.790. [1987 c.539 §39]

466.900 Civil penalties for violation of removal or remedial actions. (1) In addition to any other penalty provided by law, any person who violates a provision of ORS 466.540 to 466.590, or any rule or order entered or adopted under ORS 466.540 to 466.590, shall incur a civil penalty not to exceed \$10,000 a day for each day that such violation occurs or that failure to comply continues.

(2) The civil penalty authorized by subsection (1) of this section shall be established, imposed, collected and appealed in the same manner as civil penalties are established, imposed, collected and appealed under ORS 468.090 to 468.125, except that a penalty collected under this section shall be deposited in the Hazardous Substance Remedial Action Fund established under ORS 466.590, if the penalty pertains to a release at any facility. [1987 c.735 §23]

CRIMINAL PENALTIES

466.995 Criminal penalties. (1) Penalties provided in this section are in addition to and not in lieu of any other remedy specified in ORS

459.005 to 459.105, 459.205 to 459.245, 459.255 to 459.285, 466.005 to 466.385 or 466.890.

(2) Violation of ORS 466.005 to 466.385 or 466.890 or of any rule or order entered or adopted under those sections is punishable, upon conviction, by a fine of not more than \$10,000 or by imprisonment in the county jail for not more than one year, or by both. Each day of violation shall be deemed a separate offense.

(3) Violation of a provision of ORS 466.605 to 466.680 or of any rule or order entered or adopted under ORS 466.605 to 466.680 is punishable, upon conviction, by a fine of not more than \$10,000 or by imprisonment in the county jail for not more than one year or both. Each day of violation shall be considered a separate offense.

(4) Any person who knowingly or intentionally violates any provision of ORS 466.705 to

466.835 and 466.895 or the rules adopted under ORS 466.705 to 466.835 and 466.895 shall be subject to a criminal penalty not to exceed \$10,000 or imprisonment for not more than one year or both. Each day of violation shall be deemed a separate offense.

(5)(a) Any person who knowingly or wilfully violates any provision of ORS 466.540 to 466.590 or any rule or order adopted or issued under ORS 466.540 to 466.590 shall, upon conviction, be subject to a criminal penalty not to exceed \$10,000 or imprisonment for not more than one year, or both.

(b) Each day of violation shall be deemed a separate offense. [Formerly 459.992; (3) enacted by 1985 c.733 §18; 1987 c.158 §93; subsection (4) enacted as 1987 c.539 §38; subsection (5) enacted as 1987 c.735 §24]

CLEANUP RULES FOR LEAKING PETROLEUM UST SYSTEMS
OAR 340-122-201 to 340-122-260

340-122-201 OUTLINE OF RULES

- 340-122-205 Purpose
- 340-122-210 Definitions
- 340-122-215 Scope and Applicability
- 340-122-220 Initial Response
- 340-122-225 Initial Abatement Measures and Site Check
- 340-122-230 Initial Site Characterization
- 340-122-235 Free Product Removal
- 340-122-240 Investigations for Soil and Groundwater Cleanup
- 340-122-245 Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil
- 340-122-250 Corrective Action Plan
- 340-122-255 Additional Reporting
- 340-122-260 Public Notice and Participation

CLEANUP RULES FOR LEAKING PETROLEUM UST SYSTEMS

340-122-205 Purpose

- (1) These rules establish the standards and process to be used for the determination of investigation and cleanup activities necessary to protect the public health, safety, welfare and the environment in the event of a release or threat of a release from a petroleum UST system subject to regulation under ORS 466.705 to 466.835 and 466.895, and 466.540 to 466.590.

340-122-210 Definitions

For the purpose of this section, terms not defined in this subsection have the meanings set forth in ORS 466.540 and 466.705. Additional terms are defined as follows unless the context requires otherwise:

- (1) "Above-ground release" means any release to the surface of the land 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) "Ancillary equipment" means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a petroleum UST system.
- (3) "Below-ground release" means any release to the subsurface of the land or to groundwater. This includes, but is not limited to, releases from the below-ground portion of a petroleum UST system and releases associated with overfills and transfer operations as the petroleum is delivered to or dispensed from a petroleum UST system.
- (4) "Cleanup" or "cleanup activity" has the same meaning as "corrective action" as defined in ORS 466.705 or "remedial action" as defined in ORS 466.540.
- (5) "Director" means the Director of the Department of Environmental Quality or the Director's authorized representative.

- (6) "Excavation zone" means the area containing the tank 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.
- (7) "Free product" means petroleum in the non-aqueous phase (e.g., liquid not dissolved in water).
- (8) "Heating oil" means petroleum that is No. 1, No.2, 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.
- (9) "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, typically used in the operation of a motor engine.
- (10) "Owner", as used in this section, has the meaning set forth in ORS 466.705(8).
- (11) "Permittee", as used in this section, has the meaning set forth in ORS 466.705(9).
- (12) "Petroleum" 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. (Note: this definition does not include any substance identified as a hazardous waste under 40 CFR Part 261.)
- (13) "Petroleum UST system" means any one or combination of tanks, including underground pipes connected to the tanks, that is used to contain an accumulation of petroleum and the volume of which, including the volume of the underground pipes connected to the tank, is 10 percent or more beneath the surface of the ground; and includes associated ancillary equipment and containment system.
- (14) "Responsible person" means any person ordered or authorized to undertake remedial actions or related activities under ORS 466.540 through 466.590.

340-122-215 Scope and Applicability

- (1) Sections 340-122-205 to 340-122-260 of these rules apply to:
 - (a) An owner or permittee ordered or authorized to conduct cleanup or related activities by the Director under ORS 466.705 to 466.835 and 466.895; or
 - (b) Any person ordered or authorized to conduct remedial actions or related activities by the Director under ORS 466.540 to 466.590.
- (2) Notwithstanding OAR 340-122-215(1)(b), the Director may require that investigation and cleanup of a release from a petroleum UST system be governed by OAR 340-122-010 to 340-122-110, if, based on the magnitude or complexity of the release or other considerations, the Director determines that application of OAR 340-122-010 through 340-122-110 is necessary to protect the public health, safety, welfare and the environment.
- (3) Cleanup of releases from UST systems containing regulated substances under ORS 466.705 other than petroleum shall be governed by OAR 340-122-010 to 340-122-110 or as otherwise provided under applicable law.
- (4) The Director may determine that the investigation and cleanup of releases from petroleum underground storage tank systems which are exempted under ORS 466.710(1) through (10) inclusive, shall be conducted under 340-122-205 to 340-122-260, based upon the authority provided under ORS 466.540 to 466.590.

340-122-220 Initial Response

Upon confirmation of a release or after a release from the UST system is identified in any manner, owners, permittees or responsible persons shall perform the following initial response actions within 24 hours of the discovery of a release.

- (1) Report the following releases to the Department:
 - (a) All below-ground releases from the petroleum UST system in any quantity;

(b) All above-ground releases to land from the petroleum UST system in excess of 42 gallons, or less than 42 gallons if the owner, permittee or responsible person is unable to contain or clean up the release within 24 hours; and

(c) All above-ground releases to water which result in a sheen on the water.

- (2) Take immediate action to prevent any further release of the regulated substance into the environment; and
- (3) Identify and mitigate fire, explosion, and vapor hazards.

340-122-225 Initial abatement measures and site check

- (1) Unless directed to do otherwise by the Director, owners, permittees or responsible persons shall perform the following abatement measures:
 - (a) Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment;
 - (b) Visually inspect any aboveground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater;
 - (c) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures;
 - (d) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release. confirmation, site investigation, abatement, or cleanup activities. If these remedies include treatment or disposal of soils, the owner, permittee or responsible person shall comply with applicable state and local requirements;
 - (e) 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, the owner, permittee and responsible person shall consider the nature of the stored substance, the type of backfill, depth to

groundwater and other factors as appropriate for identifying the presence and source of the release; and

(f) Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with subsection 340-122-235.

- (2) Within 20 days after release confirmation, or within another reasonable period of time determined by the Director, owners, permittees or responsible persons shall submit a report to the Director summarizing the initial abatement steps taken under paragraph (1) of this subsection and any resulting information or data.

340-122-230 Initial site characterization

- (1) Unless directed to do otherwise by the Director, owners, permittees or responsible persons shall assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in subsection 340-122-225(1). This information shall include, but is not necessarily limited to the following:

(a) Data on the nature and estimated quantity of release;

(b) Data from available sources and/or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(c) Results of the measurements required under subsection 340-122-225(1)(e); and

(d) Results of the free product investigations required under subsection 340-122-225(1)(f), to be used by owners, permittees, or responsible persons to determine whether free product shall be recovered under subsection 340-122-235.

- (2) Within 45 days of release confirmation or another reasonable period of time determined by the Director, owners, permittees or responsible persons shall submit the information collected in compliance with paragraph (1) of this subsection to the Director in a manner that

demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the Director.

340-122-235 Free product removal

At sites where investigations under subsection 340-122-225(1)(f) indicate the presence of free product, owners, permittees or responsible persons shall remove free product to the maximum extent practicable as determined by the Director while continuing, as necessary, any actions initiated under subsection 340-122-220 through 340-122-230, or preparing for actions required under subsections 340-122-240 through 340-122-250. In meeting the requirements of this subsection, owners, permittees or responsible persons shall:

- (1) Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, state and federal regulations;
- (2) Use abatement of free product migration as a minimum objective for the design of the free product removal system;
- (3) Handle any flammable products in a safe and competent manner to prevent fires or explosions; and
- (4) Unless directed to do otherwise by the Director, prepare and submit to the Director, within 45 days after confirming a release, a free product removal report that provides at least the following information:
 - (a) The name of the person(s) responsible for implementing the free product removal measures;
 - (b) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;
 - (c) The type of free product recovery system used;
 - (d) Whether any discharge has taken place on-site or off-site during the recovery operation and where this discharge is located or will be located;

(e) The type of treatment applied to, and the effluent quality from, any discharge;

(f) The steps that have been or are being taken to obtain necessary permits for any discharge;

(g) The disposition of the recovered free product; and

(h) Other matters deemed appropriate by the Director.

340-122-240 Investigations for soil and groundwater cleanup

(1) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the groundwater, owners, permittees or responsible persons shall conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:

(a) There is evidence that groundwater wells have been affected by the release;

(b) Free product is found to need recovery in compliance with subsection 340-122-235;

(c) There is evidence that contaminated soils may be in contact with groundwater (e.g., as found during conduct of the initial response measures or investigations required under subsections 340-122-225 through 340-122-235); and

(d) The Director requests an investigation, based on the potential effects of contaminated soil or groundwater on nearby surface water and groundwater resources.

(2) Owners, permittees or responsible persons shall submit the information collected under paragraph (1) of this subsection as soon as practicable or in accordance with a schedule established by the Director.

340-122-245 Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil

(1) The Director shall develop and propose to the Environmental Quality Commission for rulemaking, matrices with numeric soil cleanup levels for motor fuel and heating oil, which may include but are not limited to specific constituents such as benzene, xylene, toluene, and ethylbenzene.

- (2) The matrices shall establish numeric soil cleanup levels that provide a high degree of protection in accordance with OAR 340-122-040(1).
- (3) Within 6 months after the effective date of these rules, the Director shall request the Environmental Quality Commission to commence rulemaking and authorize a public hearing on the proposed matrices, in accordance with ORS 466.745.
- (4) Until adoption of such matrices by rule, cleanup levels shall be determined under OAR 340-122-250(2) as applicable, unless the Director determines that abatement and cleanup conducted under subsections 340-122-220 and 340-122-225 have resulted in a cleanup level adequate to protect public health, safety, welfare and the environment.
- (5) The matrices may include, but not be limited to, the following factors;
 - (a) Distance to groundwater;
 - (b) Soil type;
 - (c) Geology of the site;
 - (d) Average annual precipitation; and
 - (e) Other factors deemed appropriate by the Director.
- (6) The owner, permittee, or responsible person may either:
 - (a) Propose clean up of the soils to a level specified in the matrices; or
 - (b) Develop a Corrective Action Plan for soils under OAR 340-122-250(2).
- (7) The Director shall not approve cleanup actions proposed under OAR 340-122-245(6)(a) if the Director determines that the numeric soil cleanup levels are not appropriate or adequate to protect public health, safety, welfare and the environment. In such case, the Director shall require the owner, permittee, or responsible person, to develop a corrective action plan, under OAR 340-122-250, or 340-122-010 to 340-122-110.

340-122-250 Corrective Action Plan

- (1) At any point after reviewing the information submitted in compliance with subsections 340-122-220 through 340-122-230, the Director may require owners, permittees or responsible persons to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater. If a plan is required, owners, permittees or responsible persons shall submit the plan according to a schedule and format established by the Director. Alternatively, owners, permittees or responsible persons may, after fulfilling the requirements of subsections 340-122-220 through 340-122-230, choose to submit a corrective action plan for responding to contaminated soil and groundwater. In either case, owners, permittees or responsible persons are responsible for submitting a plan that provides for adequate protection of public health, safety, welfare and the environment as determined by the Director, and shall modify their plan as necessary to meet this standard.

- (2) The Director shall approve the corrective action plan only after ensuring that implementation of the plan will adequately protect public health, safety, welfare and the environment. In making this determination, the Director shall consider the following factors, as appropriate:
 - (a) The physical and chemical characteristics of the regulated substance, including its toxicity, persistence, and potential for migration;
 - (b) The hydrogeologic characteristics of the facility and the surrounding area;
 - (c) The proximity, quality, and current and future uses of nearby surface water and groundwater;
 - (d) The potential effects of residual contamination of nearby surface water and groundwater;
 - (e) An exposure assessment;
 - (f) Any information assembled in compliance with this subsection;
 - (g) The impact of the release on adjacent properties; and
 - (h) Other matters deemed appropriate by the Director.

- (3) Upon approval of the corrective action plan or as directed by the Director, owners, permittees or responsible persons shall implement the plan, including modifications to the plan made by the Director. They shall monitor, evaluate, and report the results of implementing the plan in accordance with a schedule and in a format established by the Director.
- (4) Owners, permittees or responsible persons may, in the interest of minimizing environmental contamination and promoting more effective cleanup, begin cleanup of soil and groundwater before the corrective action plan is approved provided that they:
 - (a) Notify the Director of their intention to begin cleanup;
 - (b) Comply with any conditions imposed by the Director, including halting cleanup or mitigating adverse consequences from cleanup activities; and
 - (c) Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the Director for approval.

340-122-255 Additional reporting

The owner, permittee, or responsible person shall provide any additional information beyond that required under subsection 340-122-225(2), as requested by the Director.

340-122-260 Public participation

- (1) The Department shall maintain a list of all confirmed releases and ensure that site release and cleanup information are made available to the public for inspection upon request.
- (2) For each confirmed release, upon written request by 10 or more persons or by a group having 10 or more members, the Department shall conduct a public meeting at or near the facility for the purpose of receiving verbal comment regarding proposed cleanup activities, except for those cleanup activities conducted under OAR 340-122-245.

- (3) For each confirmed release that requires a corrective action plan, the Department shall provide notice to the public by means designed to reach those members of the public directly affected by the release and the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.
- (4) The Department shall ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.
- (5) Before approving a corrective action plan, the Department may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.
- (6) The Department shall give public notice that complies with paragraph (3) of this subsection if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the Department.

ADVISORY COMMITTEE REPORT

At the April 14, 1989 EQC Meeting, the Department reported to the Commission that the Underground Storage Tank Advisory Committee strongly supported the goals as well as the basic format of the proposed rules package. The Advisory Committee, therefore, was in favor of the Department's request to hold public hearings. However, there were several specific issues about which the Committee was concerned and over which consensus was not reached.

These issues were:

1. That the matrix scoring system would place all sites west of the Cascades into the most stringent cleanup level;
2. That the cleanup levels in general were too stringent and would therefore be too expensive; and
3. That these stringent cleanup levels would result in higher insurance rates to owners and operators of USTs.

These same three concerns were also raised in the oral testimony presented to the Department at the Public Hearings and in the written comments received during the comment period. In addition to these concerns, many of those testifying at the hearings raised another issue:

4. That high background levels of TPH and a poor analytical method would prevent responsible parties from being able to clean up their sites to the most stringent levels.

Following the Public Hearings, the Department arranged to meet with the Advisory Committee at their next regularly scheduled meeting, which was to be held on June 8. The Department planned to use this opportunity to summarize the testimony from the hearings as well as discuss the four alternatives outlined in the main body of this staff report. Due to the fact that only three committee members showed up for the meeting, the Department rescheduled the meeting for June 22.

Prior to the June 22 meeting, the Department mailed out to all members of the advisory committee a memo summarizing the results of the public hearings and presenting the four options that the Department was considering.

At the June 22 meeting, the Department reviewed the options and explained the rationale for the preferred option. Those in

attendance did not object to the recommended approach. However, because of the poor attendance (only four members), the Committee Chair (Richard Bach) requested that the Department send a letter to all of the members of the Committee explaining the Department's position, and informing them that unless the Department hears sufficient comments to the contrary, the Advisory Committee will go on record as recommending adoption of the proposed rules.

* * * * *

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HEARINGS OFFICER REPORTS

Summary of Procedures:

Public Hearings were held at the following times and locations:

- | | | | |
|----|--------------|-----------|------------------|
| 1. | May 16, 1979 | Portland | 7:00 - 9:00 P.M. |
| 2. | May 18, 1979 | Pendleton | 7:00 - 9:00 P.M. |
| 3. | May 23, 1979 | Bend | 7:00 - 9:00 P.M. |
| 4. | May 24, 1979 | Eugene | 7:00 - 9:00 P.M. |
| 5. | May 25, 1979 | Medford | 7:00 - 9:00 P.M. |

The purpose of the hearings was to receive testimony on the proposed Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil. Public Notice was given prior to these hearings. The opportunity was provided for the public to present oral and/or written testimony at the hearings. An informal discussion as well as question and answer period were held at each of the hearings following the period of formal testimony. Written testimony was also accepted by the Department until 5:00 P.M., June 2, 1989.

Included in this attachment are the Hearings Officer Reports for the hearings listed above as well as a summary of the written remarks that were received by the Department. The majority of witnesses testifying at the hearings were members of the Oregon Petroleum Marketers Association (OPMA). They testified in support of the "Oregon Petroleum Marketers Association Position Paper on Numeric Cleanup Standards for Gasoline and Heating Oil Contamination" which was written by David Harris. This position is summarized in Mr. Harris' comments which were presented at the Portland Hearing. The Hearings Officer Reports identify which witnesses supported the OPMA position paper. All additional remarks are also summarized. For clarity, however, the OPMA comments are not repeated in the summary of each witness who supported this position.

MEMORANDUM:

To: Environmental Quality Commission

From: Jay Gilberg, ⁶Hearings Officer

Subject: Report on the Public Hearing held in Portland on May 16, 1989 concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

List of Witnesses:

30 people attended the hearing.
7 people gave oral testimony.
No written testimony was submitted.

Those testifying were:

David Harris, Oregon Petroleum Marketers Association
Michael Fitz, Star Oil-Co
George Alexander, Alexander Oil Company
Douglas Richardson, McCall Oil and Chemical
Glenn Zirkle, Astro Hyway Oil Company
Larry Lesniak, Christensen Oil Company
Ross Rieke, Hart Crowser, Inc.

Summary of Comments:

1. David Harris, Oregon Petroleum Marketers Association (OPMA), Harris Enterprises, Incorporated, and Petromark Insurance Company.

Mr. Harris stated that OPMA strongly supports the concept of a "fast track" cleanup approach for soils contaminated by gasoline and heating oil. Using this approach, owners and operators of UST contaminations will be able to avoid the preparation of a detailed corrective action plan, they will not be required to go through the public hearing process in advance of beginning a clean up, nor will they be required to receive approval from DEQ to begin a

clean up. All of these steps are very time consuming and expensive. However, Mr. Harris believes that there are several problems with the proposed rules.

First of all, Mr. Harris thinks that the level of cleanup on a parts per million (ppm) basis is too stringent and, as a result, will be excessively expensive. According to Mr. Harris, although the cost of cleanups under the proposed standards is not easy to define, it is apparent that they will cost substantially more than they do at the present time. Also, insurance costs will increase significantly. Petromark, a leading provider of pollution liability insurance, estimates that the proposed rules will cause insurance costs in Oregon to double. Mr. Harris feels that these severe costs will encourage people to simply avoid the rules, thus resulting in more orphan sites for the state to clean up.

In his discussion of cleanup levels, Mr. Harris referred to a report by ICF Technology entitled "Preliminary Review of Cleanup Standards for Leaking Underground Storage Tanks in Selected States." This report contains a summary of standards in 30 states. Out of these states, 11 have less stringent cleanup levels, 8 have more stringent cleanup levels, and 11 states have no specific standards. For these reasons, Mr. Harris believes that the cleanup levels should be:

	Level 1	Level 2	Level 3
TPH Gasoline	50 ppm	100 ppm	200 ppm
TPH Diesel	200 ppm	1000 ppm	2000 ppm

Another concern expressed by Mr. Harris is that the scoring of the various parameters is such that many, if not most, Western Oregon locations will fall into a Level 1 cleanup or barely make it into a Level 2 cleanup category. Although DEQ has advised the regulated community at various meetings that most Western Oregon contaminations would fall into level 2, Mr. Harris stated that operators and owners of USTs are skeptical of DEQ claims regarding the majority of Western Oregon sites falling into Level 2. For this reason, he believes that the scoring ranges for the levels should be changed to:

Level 1	Greater than 45 points
Level 2	30 to 45 points
Level 3	Less than 30 points

Finally, Mr. Harris thinks that the method for determining the cleanup levels which must be used is difficult for the average UST owner or operator to understand or to calculate. He reminded the Department that the regulated community has requested that DEQ

provide a simple, understandable guidance document to help them calculate the evaluation and scoring of the parameters discussed in the rules.

2. Michael Fitz, Star Oil-Co, and
Oil Heat Institute.

Mr. Fitz agrees with the idea of the rules, but also is very concerned that all sites will be Level 1. He feels that there is no reason to cleanup any site below 100 ppm TPH and therefore endorses the OPMA cleanup levels presented by Mr. Harris. Mr. Fitz would also like the Department to encourage and allow remediation and recycling of contaminated soils on site rather than simply requiring these soils to be placed in a landfill.

Mr. Fitz pointed out that there is a lot of contamination in North Portland and out by the airport which has been there for years. If a spill occurred there the levels would be high just because of the existing contamination and therefore these sites would never meet the proposed standards. According to Mr. Fitz, even at perfectly clean sites the natural background will prevent meeting a 10 ppm TPH cleanup level. Sites in the desert in Nevada have levels higher than this. He has seen data showing the average background level on clean sites to be 18 ppm TPH.

Mr. Fitz also feels that the rules should place more emphasis on whether or not the water is being used as drinking water. Level 1 should only be used for cases where the spill is going to contaminate drinking water. If cleanup levels are too stringent, they will only lead to bankruptcy. Under these circumstances the tank owner will be faced with the decision of cleaning up the contamination or feeding his children.

3. George Alexander, Alexander Oil Company.

Mr. Alexander supports the goal of the proposed rules and the position of the OPMA as stated by Mr. Harris and Mr. Fitz. He feels that 10 ppm TPH is much too stringent. He gave the example that 10 ppm is equivalent to placing 1 aspirin tablet in 1 acre of ground that is 1 foot deep. Because the proposed levels are overkill, insurance rates will increase. Mr. Alexander has worked with petroleum products for 40 years and thinks that we should allow less stringent standards to prove that there is no harm to the public.

4. Douglas Richardson, McCall Oil and Chemical.

Mr. Richardson supports the OPMA position. He has been working with Environmental Audits on properties and finds that the natural background is too high for a 10 ppm TPH cleanup level.

Prior to the hearing he reviewed 10 sites and found TPH values ranging from 1 to 39 ppm although no contamination was present on these sites. Environmental Solutions in Walnut Creek, California has told him that the average clean site that they have investigated contains 15-18 ppm TPH.

Another problem pointed out by Mr. Richardson is the variability in the sensitivity of EPA Method 418.1 which the Department is proposing for TPH analysis. He has been told by Brown and Caldwell that the detection limit for this method is 10 ppm. Columbia Analytical Laboratories told him that their detection limit is 30 ppm. Therefore, the needed accuracy is not available for the lower proposed levels. He would therefore like to see the lowest cleanup levels increased to 100 ppm.

5. Glenn Zirkle, Astro Hyway Oil Company

Mr. Zirkle supports the OPMA position. He mentioned that the industry is faced with an overabundance of new federal and state regulations and requirements all of which are creating a great financial burden. He feels, therefore, that the Department needs to not only make the levels less stringent but also make the matrix more "do-able." He thinks that the Department could start out with less stringent cleanup levels and then reassess the situation after 6 months to a year to see if they are doing the job or if a change is necessary.

6. Larry Lesniak, Christensen Oil.

Mr. Lesniak supports the OPMA position. Since many states have higher cleanup levels, he wonders how stringent Oregon needs to be. He pointed out that if he spilled a pint of oil in his yard every year, in 109 years he would exceed the proposed 500 ppm Level 2 cleanup goal for that product.

Mr. Lesniak also feels that the Department should do some random testing of "clean" sites around the state to determine what kind of background levels exist. This information could then be used when determining cleanup levels. Therefore, a site in Northwest Portland with a high background would not need to be cleaned up as much as a site in a clean rural area.

Mr. Lesniak expressed concern for the fact that more explanation is needed for the layman. He thinks that it is very difficult for the average person to understand what a "part per million" really means.

7. Ross Rieke, Hart Crowser.

Mr. Rieke agrees that the cleanup levels are too low. However, he does not think that the problem is with what the actual numbers are, but rather with how they are to be determined. He feels that EPA Method 418.1 is questionable at best. He has looked at results from other, more scientifically based analytical methods and finds that they invariably give results that are only one-half to one-third of what is generated by Method 418.1. He would, therefore, like to see the Department require a different method of TPH analysis in the rules.

MEMORANDUM

To: Environmental Quality Commission

From: Bill Hampton, Hearings Officer *W.C.H.*

Subject: Report on the Public Hearing held in Pendleton on May 18, 1989 concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

List of Witnesses:

4 people attended the hearing.
1 person gave oral testimony.
No written testimony was submitted.

The person testifying was:

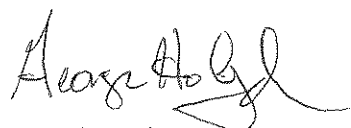
Don Waldrup, A & B Enterprises, Inc.

Summary of Comments:

Mr. Waldrup feels that the fast cleanup approach is very important. He indicated that he does not quite understand the three different levels, but thinks that Level 1 will be too difficult to meet. Mr. Waldrup would prefer to see all of the cleanup levels less stringent; more like Level 3. He believes that, especially in rural areas, it is not necessary to clean up to better than Level 3.

MEMORANDUM

To: Environmental Quality Commission

From: George Holroyd, Hearings Officer 

Subject: Report on the Public Hearing held in Bend on May 23, 1989 concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

List of Witnesses:

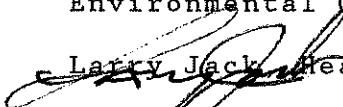
3 people attended the hearing.
None of them gave oral testimony.
No written testimony was submitted.

Summary of Comments:

No testimony was presented.

MEMORANDUM

To: Environmental Quality Commission

From:  Larry Jack, Hearings Officer

Subject: Report on the Public Hearing held in Eugene on May 24, 1989 concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

List of Witnesses:

14 people attended the hearing.
3 people gave oral testimony.
No written testimony was submitted.

Those testifying were:

Marc Nelson, Marc Nelson Oil Company
Courtney Jones, Jones Oil Company
Mike Armstrong, Pacific Petroleum Company

Summary of Comments:

1. Marc Nelson, Marc Nelson Oil Company

Mr. Nelson agrees with the position stated by OPMA. He feels that the rules must be practical, economical and easy to understand, and that it is not necessary to have a corrective action plan, public hearing and DEQ approval just to clean up a petroleum spill. Despite DEQ assurances, he is not sure if his site would fall into Level 2 or not and therefore would like to see the scores and the cleanup levels increased to those values detailed in the OPMA position paper.

Mr. Nelson indicated that he will also be sending the Department a letter containing his testimony.

2. Courtney Jones, Jones Oil Company

Mr. Jones agrees with the position stated by OPMA. He is a native Oregonian who appreciates the state's beauty and knows that protection is necessary, but he feels that bureaucratic controls have gotten out of hand. Mr. Jones thinks that the cleanup levels are much more stringent than what is needed for protecting the public. He has heard that 10 ppm is equal to one aspirin tablet on one acre of soil a foot deep. Furthermore, as a child, he often picked up tar and chewed on it and that has not resulted in any problems.


Mr. Jones pointed out how all of the new regulations have interfered with the industry's ability to provide service to the citizens of the state. As an example, he stated that there is currently only one commercial outlet for gasoline in downtown Salem. Since many states use 100 ppm TPH as their cleanup level, he would like to see DEQ raise the proposed levels to those suggested by OPMA.

3. Mike Armstrong, Pacific Petroleum

Mr. Armstrong agrees with the previous testimony and the position stated by OPMA. He feels that there are many concerned citizens who like to do business in the state of Oregon, and that they cannot have more constraints preventing them from doing business. He thinks that the matrix idea is a good one because tank owners and operators need to be able to respond quickly to cleanup the soil and be able to get back into operation. However, he agrees that the proposed levels are too stringent and would like the Department to raise them.

MEMORANDUM

To: Environmental Quality Commission

From: Byron Peterson, Hearings Officer 

Subject: Report on the Public Hearing held in Medford on May 25, 1989 concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

List of Witnesses:

7 people attended the hearing.
1 person gave oral testimony.
Written testimony was also submitted.

The person testifying was:

Mike Hawkins, Hawk Oil Company

Mr. Hawkins also submitted a letter which was signed by:

Frank L. Carter, Unocal
Lane Colvin, Colvin Oil Company
Mark Colvin, Colvin Oil Company
Jerry P. Guiliano, Rogue Valley Oil Company
Mike Hawkins, Hawkins Oil Company
Steven W. Hays, Hays Oil Company
Karen Terpening, Medford Fuel Company
M. A. Winkelman, Winkelman Oil Company

Summary of Comments:

Mr. Hawkins is in favor of the fast track approach. He expressed concern, however, about how the level of TPH will be measured. He has heard that there are two different methods and that one costs much more than the other. He also has heard that these methods give different results. Mr. Hawkins is also concerned that all sites in Western Oregon will require Level 1 cleanup standards and

therefore he supports the point ranges and cleanup levels that are being suggested by the Oregon Petroleum Marketers Association (OPMA).

The letter submitted by Mr. Hawkins presents his concerns in more detail. In addition to supporting all of the points outlined in the OPMA position paper, this letter refers to the differences in EPA Method 418.1 and Method 8015 and questions the Department's ability to propose cleanup levels based on unknown testing methods. The letter expressed the same fears put forward by OPMA about unacceptable cleanup costs and increased costs of obtaining insurance. Besides these costs, the industry is also facing mandated increases in wages and benefits while operating in a state that denies their option to institute self-service stations.

The letter submitted by Mr. Hawkins is on file with the Department and may be examined upon request.

MEMORANDUM

To: Environmental Quality Commission

From: Michael R. Anderson *Ma*

Subject: Report on the Written Comments received by the Department concerning the proposed rules for establishing Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Amendments to OAR 340-122-030, 215, 245, 250 and OAR 340-150-130.

In addition to the testimony gathered at the Public Hearings which is summarized in the five Hearings Officers Reports in this Attachment, the Department also received written comments from the time at which the hearings were authorized by the Commission on April 14, 1989 until June 2, 1989. This memo summarizes the comments contained in the written testimony. All of the written comments are on file at the Department and may be examined upon request.

List of People Submitting Written Testimony:

1. After approving the Department's request to hold public hearings, the Commission presented the Department with 17 letters which had been sent to Commissioner Wessinger concerning the proposed rules. These letters were written by:

Warren E. Bechtolt, Niemi Oil Company
Mark A. Bidwell, Peavey Oil Company
Andy Bretthauer, Bretthauer Oil Company
Michael A. Fitz, Star Oil-Co
L. G. Hance, Hance Oil Company
Mike Hawkins, Hawk Oil Company
Harold C. Hendriksen, Hendriksen Oil Company
Peter F. Meyer, Merritt Truax Oil Company, Inc.
Betty Ballou-Neser
Stephen J. Reid, Pioneer Oil
Lionel Robben, Robben and Sons Heating
David G. Salholm, A-Accurate Oil Company
Ed Stafford, Stafford Oil Company, Inc.

Ed Staub and Sons Petroleum, Inc.
Dennis L. Stoll, Capital City Companies, Inc.
Don W. Thomas, Don Thomas Petroleum Inc.
Steve Wilcox, Wilson Oil, Inc.

2. In addition to the letters listed above, written comments were also received by the Department from the following people:

Kelly E. Cook, CH2M-Hill
Kathleen L. Cordes, Riedel Environmental Services, Inc.
David L. Craig, Pacific Power
David L. Harris, Harris Enterprises, Inc.
Rick J. Hess, Portland General Electric Company
Anthony R. Morrell, Bonneville Power Administration
Marc Nelson, Marc Nelson Oil Company
Tom Peargin, Chevron USA
Norman A. Poole, Poole Oil
I-Sen Wang, Tetra Tech, Inc.

Summary of Comments:

1. The 17 letters presented to the Department by the Commission were written in response to information supplied by the Oil Heat Institute. Since they all contain the same comments, they will be summarized as a group in this section.

The authors of these letters feel that the cleanup levels being proposed by the Department are too stringent and that the Department has not proven that these levels are absolutely necessary to protect the health and welfare of the people of Oregon. They point out that other states do not require such stringent levels and that the technology may not be available to attain such levels. Furthermore, the costs of cleaning up will be prohibitively expensive and may put many people out of business.

The authors of these letters propose the following cleanup levels:

	Level 1	Level 2	Level 3
TPH Gasoline	100 ppm	200 ppm	400 ppm
TPH Diesel	200 ppm	500 ppm	1000 ppm

They also propose that the scores used for ranking the sites be changed to:

Level 1	60 points
Level 2	40 - 59 points
Level 3	0 - 39 points

2. Kelly E. Cook, CH2M-Hill

Mr. Cook chose to make several comments specifically related to the analytical methods section of the rules (OAR 340-122-350).

First of all, he feels that the Department should stick to EPA Method 418.1 for the determination of gasoline, diesel, kerosene, etc., since other methods which use gas chromatography are alright for identification, but are a nightmare when trying to quantify the compounds. Method 418.1 leaves very little open to interpretation and will cover all of the samples of interest at 1/3 to 1/4 the cost of the other methods.

Secondly, Mr. Cook wonders why the Department requires BTEX analysis by both methods 5030 and 8020 since 5030 is specifically for drinking water and probably not applicable to the situation dealt with by the rules.

Finally, Mr. Cook indicates that the Department should avoid the use of GC/MS methods since they are very expensive and quantitation of compounds is often not as accurate as with GC methods.

3. Kathleen L. Cordes, Riedel Environmental Services, Inc.

Ms. Cordes feels that the cleanup levels are overly stringent, especially since the gasoline levels are to be used in the absence of proof that the release did not contain gasoline. Ms. Cordes also points out what she thinks is a discrepancy between the required methods and the cleanup standards. This is due to the fact that the rules require BTEX analysis and yet there are no standards proposed for BTEX. She feels that the TPH should be used as the indicator analysis to determine the degree of soil contamination.

4. David L. Craig, Pacific Power

Mr. Craig wrote that the proposed method is generally well-suited to addressing the site specific nature of many UST cleanup situations. He also feels that allowing the owner the option of either choosing Level 1 standards or acquiring the data necessary for the matrix approach is a commendable and practical approach. However, Mr. Craig recommends that the Department add a section that addresses alternate concentration limits and allows the Department or the EQC to approve such limits.

In comments on specific sections, Mr. Craig states:

340-122-330(3): The terms "unfractured" and "permeable" should

either be defined or modifiers like "significantly" should be added for clarification.

340-122-330(4): The term "unusable" is used in a confusing manner in reference to aquifers and should either be defined or eliminated from the text.

340-122-340(4): This section is highly commendable since it recognizes that water in the UST excavation may not be native groundwater. A reasonable approach is proposed to determine the source of the water in the excavation.

340-122-345(5) and 350(4): The term "adopt" implies that DEQ must go through the full regulation adoption process to approve an alternate method of sampling. It is suggested that the term "adopt" be replaced with "accept."

5. David L. Harris, Oregon Petroleum Marketers Association,
and Harris Enterprises, Inc.

Mr. Harris submitted this written testimony to the Department two weeks after giving oral testimony at the Portland Public Hearing. The written testimony covers the same points made in the oral testimony. For a complete summary, refer to the report of the May 16, 1989 Portland Public Hearing included in this Attachment.

6. Rick J. Hess, Portland General Electric

Mr. Hess thinks that "Heating Oil" should be defined separately from "gasoline." He suggests using the definition in 40 CFR 280.12 to avoid confusion that may lead to someone trying to use gasoline as a heating oil.

Mr. Hess also feels that the proposed matrix level 1 cleanup for gasoline contaminated soils is more stringent than the Safe drinking Water Act proposed for potable water supplies. He therefore suggests that this be reviewed and more reasonable levels chosen so that owners can be responsible for reasonable cleanup activities. DEQ should also have the ability to allow for case-by-case considerations.

Mr. Hess wonders why DEQ gives very detailed methods for sampling soils and then states that "qualitative" rather than "quantitative" analyses are allowed. He also feels that BTEX analyses cannot be accomplished in a timely manner at a reasonable cost and therefore defeats the purpose of the soil matrix.

With respect to the proposed amendment to OAR 340-150-130(7), Mr. Hess suggests that tank and line tightness tests be allowed to show that no leaks have occurred rather than relying solely on soil tests.

In proposing these rules, Mr. Hess thinks that the Department has not taken into account the value of leaving soils in place after some leaks have occurred so that natural processes can biodegrade the contaminants. Also, the rules neither allow options for treatment of the contaminated soils nor take into account the size of the spill. Furthermore, he states that DEQ has not addressed the fiscal and economic impact of the rules, nor provided a statement of compatibility with LCDC rules, nor supplied a staff report with an explanation of how the rules are to be administered.

Finally, Mr. Hess believes that the Department should place some limitation on the distance from the nearest well. The rules should clearly state that the nearest well is used as a drinking water supply well and shows clear evidence of contamination.

7. Norman A. Poole, Poole Oil Company

Mr. Poole strongly supports the OPMA position and attached a copy of the OPMA position paper to his letter for the Department's reference. The OPMA position is summarized in the comments of David Harris which are presented in the report of the Portland Public Hearing included in this Attachment.

8. Anthony R. Morrell, Bonneville Power Administration

Mr. Morrell supports DEQ's proposed rules since they will allow for a more flexible approach in cleaning up sites where there is no groundwater contamination. This will enable BPA to focus their resources on sites with more serious contamination. In order to prevent unnecessary delays, Mr. Morrell suggests that the Department commits itself to making staff available when needed for inspections. He also recommends that the Department allow for variances in the required TPH standards for unusual circumstances. This would provide even more flexibility to the program.

9. Marc Nelson, Marc Nelson Oil Company

Mr. Nelson testified at the Eugene hearing. This letter was sent to the Department at a later date but contains the information summarized in the Eugene hearing report. In a post script, however, Mr. Nelson states that although he is now less concerned about his sites falling into Level 1, he is still concerned that insurance companies will base their premiums on the worst scenario, which is Level 1. He still suggests, therefore, that the Department raise the standards to those recommended by the OPMA.

10. Tom Peargin, Chevron USA

In the definition of a non-gasoline fraction hydrocarbon, Mr. Peargin feels that the term "predominantly" does not adequately define the proportion of the hydrocarbon spectrum less than C12 allowable for a substance to still be considered a non-gasoline hydrocarbon. He suggests that a non-gasoline hydrocarbon might be better defined as a substance in which the hydrocarbon number of 90% of the compounds present is greater than C9.

Mr. Peargin also thinks that the precipitation value ranges in the matrix score are too large. He suggests using smaller incremental point increases across a greater range of values. For example, one point could be scored for each 6 inches/year of precipitation. This would result in the 10 point maximum for sites with 60 inches/year or more. Mr. Peargin feels that this approach would more realistically reflect the linear effect of increased rainfall on leachability of contaminants from soils.

11. I-Sen Wang, Tetra Tech, Inc.

Mr. Wang thinks that the Department should take into consideration the risk of specific components when establishing cleanup standards. He recommends looking at benzene, toluene, xylenes, and possibly organic lead for leaded gasoline. He points out that California set standards based on both TPH as gasoline and on benzene concentrations.

Mr. Wang also feels that the cleanup levels are more stringent than they should be. Based on technical feasibility and cost-effectiveness, he recommends:

	Level 1	Level 2	Level 3
TPH as Gasoline	50 ppm	100 ppm	200 ppm
Benzene	1 ppm	10 ppm	50 ppm
TPH as Diesel	100 ppm	500 ppm	2000 ppm

Finally, Mr. Wang suggests that depth to groundwater and potential receptors should be weighted more in the proposed scoring since they are the major factors that pose environmental threats.

DEPARTMENT RESPONSE TO TESTIMONY

COMMENT - Agreement with "fast track" approach:

All of the witnesses agree with the approach taken in the proposed rules. The Oregon Petroleum Marketers Association (OPMA) and the Oil Heat Institute (OHI) strongly support the concept and feel that the proposed rules are beneficial since owners and operators of UST contaminations would be able to avoid the preparation of a detailed corrective action plan, would not be required to go through the public hearing process in advance of beginning a clean up, nor be required to receive approval from DEQ to begin a clean up.

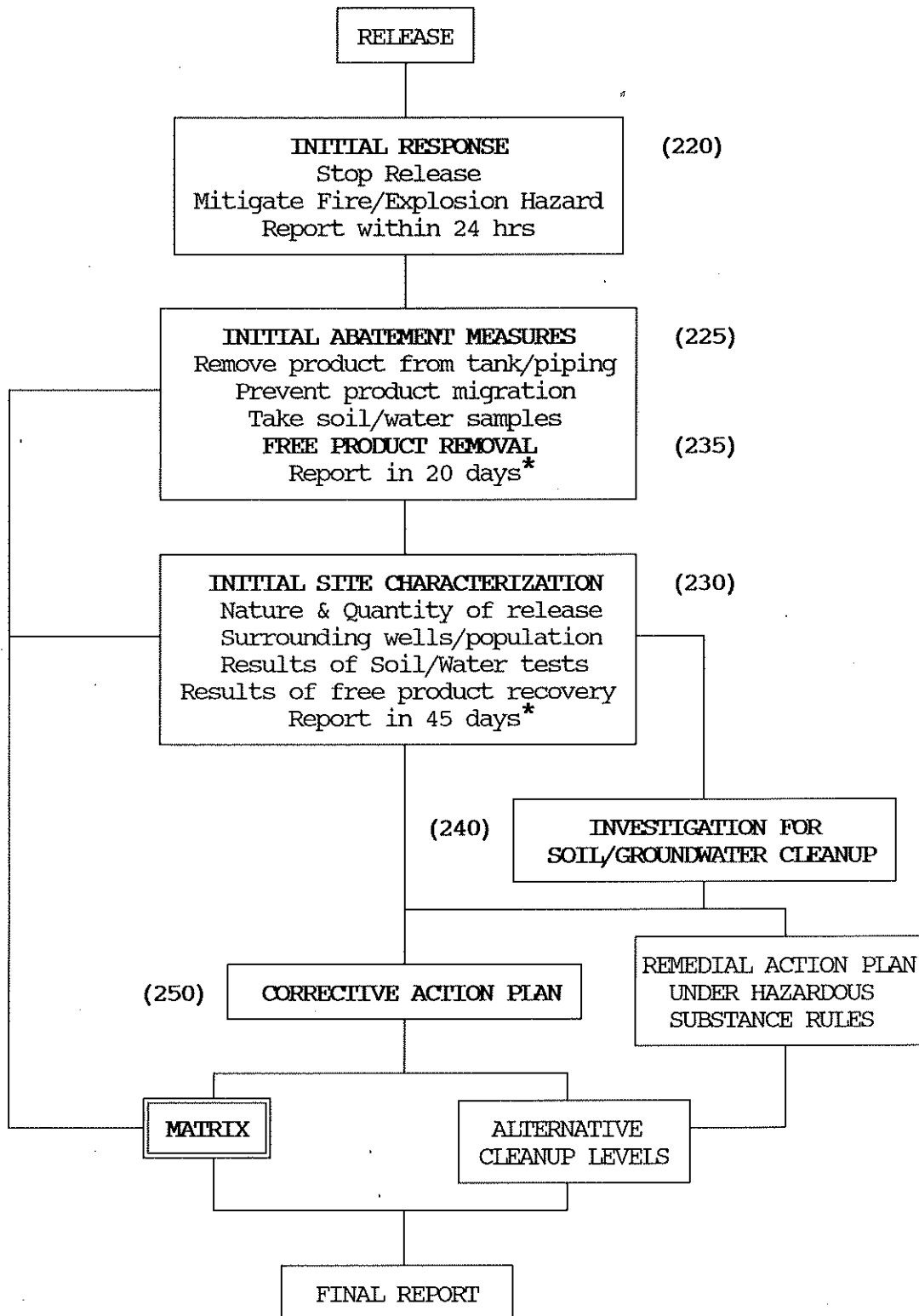
Response:

The Department is pleased with the overall support for the proposed rules. However, the Department feels that in stating the reasons for their support, OPMA and OHI have misinterpreted the Leaking Petroleum UST Cleanup Rules (OAR 340-122-201 to 340-122-260) which were adopted by the Commission on November 4, 1988.

First of all, parties responsible for UST contaminations are not required to go through a public hearing process prior to initiating a clean up. According to OAR 340-122-260(2), for each confirmed release the Department is only required to conduct a public meeting "upon written request by 10 or more persons or by a group having 10 or more members."

Furthermore, whether a public meeting is held or not, responsible parties are never required to receive approval from DEQ to begin a cleanup. After reporting the release to the Department within 24 hours, the responsible party must make an Initial Response (340-122-220) and then proceed with Initial Abatement Measures and Site Check (340-122-225). Neither of these steps require the Department's approval. In fact, they are required of all parties "unless directed to do otherwise by the Director."

Should the Commission adopt the proposed rules, responsible parties will still be required to proceed at least through 340-122-225 of the current rules before applying the matrix. This is illustrated in the flowchart contained in this Attachment. The proposed rules are basically an alternative to the corrective action plan requirements of the current rules, and are only to be used at sites where contamination is limited to the soils.



* For Matrix sites, the 20 day or 45 day report is also the final report.

Flowchart showing where the proposed rules (Matrix) fit into current rules.

COMMENT - All Western Oregon sites will be Level 1:

Members of OPMA and OHI are concerned that the scoring of the various parameters is such that many, if not most, Western Oregon locations will fall into a Level 1 cleanup or barely make it into a Level 2 cleanup category. Although the Department has advised the regulated community at various meetings that most Western Oregon sites would fall into Level 2, OPMA and OHI claim that operators and owners of USTs are skeptical of the Department's claims. For this reason, different scoring ranges have been proposed. The OPMA believes that the scoring ranges for the levels should be changed to:

Level 1	Greater than 45 points
Level 2	30 to 45 points
Level 3	Less than 30 points

The OHI has proposed that the scoring ranges be changed to:

Level 1	60 points
Level 2	40 to 59 points
Level 3	Less than 40 points

Response:

In planning the cleanup levels contained within the proposed rules, the Department determined, after much discussion with other states as well as with area consultants and regional staff members, that one set of cleanup levels would probably be sufficient for most sites where contamination is restricted to the soils. However, it was also decided that there would probably be some cases where more stringent levels would be required and also some cases where less stringent levels would be sufficient. It was necessary, therefore, to devise a matrix scoring scheme where most sites would fall into Level 2. This scheme would have to be sensitive enough, however, so that when conditions require it, the more critical sites would be scored Level 1 and the less critical sites would be scored Level 3.

After preparing a scoring scheme which the Department felt would rate sites properly, the Department sent a letter to 23 area cleanup firms requesting their help in evaluating the proposed scheme. Regional staff members were also asked to "test drive" the matrix to see how well it worked. Results of this test are on file with the Department and may be examined upon request. These results are summarized below:

	Range of Scores	Number of Sites
Level 1	46 - 50	1
	41 - 45	0
Level 2	36 - 40	13
	30 - 35	18
	25 - 29	7
Level 3	20 - 24	3
	12 - 19	0
	5 - 11	0
Total No. of Sites		42

The majority of the sites that were scored in this test are located west of the Cascades. Despite that fact, the majority of sites fell into Level 2 under the currently proposed cleanup rules. The Department feels, therefore, that no change in the proposed scoring scheme is necessary.

COMMENT - Level 1 should only be used for drinking water:

Continuing with remarks dealing with the scoring of sites, Mr. Michael Fitz of OHI feels that Level 1 standards are only appropriate for drinking water. Mr. Rick Hess of Portland General Electric feels that the rules should clearly state that the nearest well is used for drinking water and shows clear evidence of contamination.

Response:

The Department agrees that sites with nearby drinking water wells are among the most critical and should rate Level 1. The Department feels that the scoring in the proposed rules is set up so that the only sites reaching Level 1 will be those in areas where there is abundant rainfall, shallow groundwater and people nearby who are tapping the groundwater for drinking water. This concurs with Mr. Fitz' position. However, the goal of the proposed rules is to prevent groundwater contamination. Mr. Hess' comment about clear evidence of drinking water contamination is, therefore, clearly inappropriate for these rules. Sites where existing groundwater contamination is found would not be eligible for cleanup under the proposed rules.

COMMENT - Change some components of the scoring scheme:

Mr. Peargin of Chevron feels that the matrix scoring method for precipitation should be changed to result in smaller incremental

point increases. He suggests giving one point for each 6 inches/year of precipitation up to a maximum of 10 points.

Mr. Wang of Tetra Tech suggests that the Department change the weighting of the factors so that the depth to groundwater and the potential receptors are scored more heavily.

Response:

The Department feels that changing the precipitation ranges is not necessary for the purposes of the proposed rules. First of all, since the goal of the score is to result in just three cleanup levels, the addition of such detail to the precipitation score would add unnecessary precision. More importantly, the annual precipitation at a specific spot is not always known this precisely. In most cases, the precipitation value that will be used in the score will probably come from the nearest official weather station. This station may be many miles away from the site and the precipitation may differ somewhat from that at the site. Therefore, the chances of actually knowing the annual precipitation at the site to the nearest inch are probably slim.

In meetings with the Advisory Committee, the Department has discussed the scoring factors on several occasions. These discussions focused both on how appropriate each factor is for the rules and also on the weighting of the factors. The current scoring scheme was arrived at via these discussions. The Department, therefore, feels that no further changes in the weighting of the factors are necessary.

COMMENT - Cleanup Levels are too stringent:

Members of OPMA and OHI, as well as some other witnesses such as Mr. I-Sen Wang of Tetra Tech and Ms. Kathleen Cordes of Riedel Environmental Services, feel that the proposed cleanup levels are too stringent. Mr. Hess of Portland General Electric thinks that the Department has not taken into account the value of leaving soils in place after some leaks have occurred so that natural processes can biodegrade the contaminants.

Several different sets of alternative cleanup levels have therefore been suggested to the Department.

OPMA believes that the cleanup levels should be:

	Level 1	Level 2	Level 3
TPH Gasoline	50 ppm	100 ppm	200 ppm
TPH Diesel	200 ppm	1000 ppm	2000 ppm

OHI suggests the following cleanup levels:

	Level 1	Level 2	Level 3
TPH Gasoline	100 ppm	200 ppm	400 ppm
TPH Diesel	200 ppm	500 ppm	1000 ppm

Mr. Wang proposes that the Department use the following levels:

	Level 1	Level 2	Level 3
TPH Gasoline	50 ppm	100 ppm	200 ppm
Benzene	1 ppm	10 ppm	50 ppm
TPH Diesel	100 ppm	500 ppm	2000 ppm

Response:

In developing numeric soil cleanup levels for motor fuel and heating oil, the Department recognizes that it is usually not necessary to completely remove all signs of contamination in order to adequately protect human health, safety, welfare and the environment. It is generally agreed that natural processes such as biodegradation can assist in remediating petroleum-contaminated sites. However, concentrations must be reduced to levels that will prevent contaminants from leaching into the groundwater or migrating off-site at levels of concern while natural processes are at work. So, the key question is, what levels provide this margin of safety?

For the most critical cases (Level 1), the Department felt that the cleanup levels must be such that groundwater would be adequately protected under all conditions. This means that the benzene concentrations in the water must not be allowed to exceed 5 ppb, which is the maximum contaminant level established by the EPA for benzene in drinking water. Since the concentration of benzene in gasoline may be as high as 3.5%, a cleanup level of 10 ppm TPH could result in a benzene level in soil of about 350 ppb.

To relate soil concentrations to what might end up in the groundwater, the Department reviewed background documents prepared for RCRA pertaining to leachates from landfills. In this work, it was determined that the contaminant concentrations reaching the water were about 1% of the concentrations in the soils. In the case of the 10 ppm TPH cleanup level mentioned above, this factor of 1% translates into a benzene concentration in water of about 3.5 ppb. This is within the 5 ppb drinking water standard and is comparable to the most stringent levels being used in other states such as California, South Carolina, and Wisconsin.

Although the Department feels that Level 1 standards are necessary at the most critical sites, it agrees that in the majority of cases, this stringent of a cleanup level is not necessary. As stated above, for most cleanups, Level 2 should be sufficient. In discussions about what levels were being attained with the interim odor and sheen standard, regional staff stated that, from their experience, 50 ppm was approximately the level currently being attained in gasoline cleanups. Furthermore, they felt that this level was providing adequate safety. Therefore, the Department felt that setting Level 2 at 50 ppm for gasoline would only be quantifying a level that was already being used and which appeared to be providing adequate protection. For less stringent sites, the level was raised further to the 100 ppm level which is used as an action level in a number of other states.

After setting these levels for gasoline, it was decided to set all of the diesel and heating oil cleanup levels a factor of ten higher since these products typically have at least a factor of ten lower concentrations of benzene, which is the contaminant of most concern for health reasons.

For these reasons, the Department feels that the proposed cleanup levels are necessary to adequately protect health, safety, welfare and the environment.

Concerning Mr. Wang's suggestion to analyze for benzene when dealing with gasoline contamination, the Department had originally suggested the use of benzene, toluene, ethylbenzene and xylenes (BTEX) as indicators of gasoline contamination. However, the Advisory Committee was against requiring tests other than TPH analysis due to the extra costs and possible delays that were involved. Therefore, in revisions of the rules, the Department has not pursued standards for these components.

COMMENT - Many states use 100 ppm TPH, why not Oregon?:

The position paper by OPMA refers to a study of cleanup levels in 30 states. The study shows that 11 states have standards less stringent than those in the proposed rules. The most common standard listed is 100 ppm. Why doesn't Oregon adopt this as a cleanup standard?

Response:

As OPMA notes in their position paper, this study also shows that 8 states have more stringent cleanup levels than those in the proposed rules. Eleven of the 30 states had no numeric standards at the time of the study. This data indicates that Oregon's proposed standards are not unusually stringent. In fact, with 11 states higher and 8 states lower, the proposed standards are pretty much in the middle.

There were several factors which caused the Department to hesitate at simply adopting a cleanup level of 100 ppm TPH. First of all, in discussions with staff members from other states, the most common reason given for choosing 100 ppm was because "that's what other states are doing." In other words, they could not defend that number on either health or environmental grounds. Secondly, most states using the 100 ppm value use it as an "action" level rather than a "cleanup" level. This means that sites having contamination exceeding 100 ppm require investigation and cleanup. It does not necessarily mean that an adequate cleanup can be accomplished by merely reducing the contaminant concentration to a level of 100 ppm. Finally, and most importantly, these states have typically not incorporated their 100 ppm level into a "responsible-party managed" cleanup program. This level is only advisory and the states supply oversight and have the opportunity to modify the level as the situation demands.

So, although 100 ppm TPH is a commonly quoted value, the Department does not feel that this value is necessarily the best one to use in all cases.

COMMENT - 10 ppm equals 1 aspirin per acre:

Several witnesses, when explaining that they felt the proposed cleanup levels were too stringent, testified that they heard that "10 ppm is equal to 1 aspirin on 1 acre of ground that is 1 foot deep."

Response:

Although this story is apparently becoming quite popular, it is wrong. In fact, it is not even close to being correct.

Using the mass of a typical aspirin tablet (325 milligrams) and a typical bulk density for soil (1.7 grams per cubic centimeter), it can be readily calculated that a concentration of 10 ppm in an acre of soil that is one foot deep would require sixty-five thousand (65,000) aspirin tablets.

COMMENT - Cleanups under the proposed rules will cost too much:

OPMA and OHI are concerned that the proposed cleanup levels will result in excessively expensive cleanups. Although they state that the costs under the proposed standards are not easy to define, they mention that it is apparent that they will cost substantially more than they do at the present time.

Response:

As already pointed out in the response to a previous comment, the Department does not feel that the proposed levels are necessarily more stringent than those already in existence. Regional staff members feel that 50 ppm is being attained by "odor and sheen" for gasoline cleanups. Therefore, cleanup costs should not be greater. The Department feels that to recommend less-than-protective cleanup levels in an attempt to save money is a false economy. If a soil cleanup fails and significant contamination ends up in the groundwater, cleanup costs could easily escalate to hundreds of thousands of dollars per site. Obviously, it is both better and cheaper to clean up petroleum contamination correctly while it is still isolated in the soil.

COMMENT - Insurance costs will increase:

OPMA and OHI are concerned that the proposed cleanup levels will cause insurance costs to increase. OPMA claims that Petromark, a provider of pollution liability insurance, estimates that the proposed rules will cause insurance costs in Oregon to double.

Response:

Because of the rapidly changing nature of the petroleum industry, pollution liability insurance costs have been on the rise for a number of years. A Government Accounting Office report to the EPA on insurance for underground storage tanks has stated that tank insurance is "generally unavailable despite the increasing demand for it, and when available it is becoming more increasingly expensive." This increase in insurance expenses is related to a large number of new UST regulations and requirements. However, in the September 15, 1988 issue of News and Reviews from Federated Insurance Company, Federated, a major provider of pollution liability insurance, discusses competition and states that they "anticipate more competition once the EPA regulations are finalized and the states have enacted their own programs." The Department feels that as more companies begin to write policies for pollution liability insurance, competition will help to control the spiraling costs of these policies.

COMMENT - Determination of cleanup levels is too complicated:

The determination of the cleanup levels which must be used is difficult for the average UST owner or operator to understand or to calculate. The regulated industry has requested that DEQ provide a simple, understandable guidance document to help them calculate the evaluation and scoring of the parameters discussed in the rule.

Response:

The Department has promised the regulated community to provide written guidance on how to implement the proposed rules. This guidance will help clarify some of the more technical aspects of the rules and give references for finding information such as depth to groundwater, annual precipitation, etc. Unfortunately, cleaning up releases of petroleum products can be a very technical job. Even with the help of a guidance document from the Department, it is unlikely that every station owner or operator will be able to oversee his or her own soil cleanup. Although the law does not require the responsible party to seek professional help, it is the Department's hope that such help will be sought when necessary.

COMMENT - It is impossible to clean up to 10 ppm TPH since the background is too high, and even if you could, Method 418.1 is not sensitive enough to measure levels that low:

The Department received a number of comments on the following two related issues.

1. High "background" levels of TPH will make it impossible to attain a cleanup standard of 10 ppm.

Many witnesses told stories that they had heard about high natural background levels of TPH. Mr. Richardson of McCall Oil and Chemical testified that he had seen data on clean sites where average TPH values were in the range of 15-18 ppm. With levels like these at clean sites, witnesses wondered how the Department could expect a responsible party to clean up a site to 10 ppm TPH.

2. The proposed analytical method (Method 418.1) is not sensitive enough to show whether or not a site has been cleaned up to 10 ppm TPH.

Two witnesses, Mr. Richardson of McCall Oil and Chemical and Mr. Rieke of Hart Crowser, expressed their concerns about the ability of Method 418.1 to adequately measure TPH at the levels required by the proposed rules. Mr. McCall stated that Brown and Caldwell informed him that 10 ppm is the detection limit for this method, whereas Columbia Analytical claims that 30 ppm is the detection limit. Therefore, the accuracy is not available to reach the low proposed levels. Most witnesses feel that this is reason for the Department to raise the cleanup levels. Mr. Rieke feels that the Department should consider another analytical method that is not subject to some of the difficulties of Method 418.1. However, Mr. Kelly Cook of CH2M-Hill feels that the Department should stick with Method 418.1 since it is inexpensive and is not as difficult to quantify as some of the other suggested methods.

Response:

The issue of analytical methods is one that the Department has been wrestling with for many months. The importance of this issue is not simply based on a desire by the Department to see consistency of approach, but, more importantly, it is because different analytical methods may (and often do) yield different results. Therefore, the cleanup levels themselves must be defined with a specific method in mind.

Because of the significance of this issue, the Department initially held a meeting with representatives from a number of local analytical laboratories. This meeting was held in Portland on the afternoon of April 18, 1989. Those in attendance were:

Michael Anderson, DEQ
Sondra Borders, Tank Liners, Inc.
Renee Chauvin, Coffey Laboratories
Richard Gates, DEQ
John Melvin, Pacific Analytical
Philip Nerenberg, Pacific Analytical
Ross Rieke, Hart Crowser
Michael Rosen, DEQ
Michael Vogel, ATI

The general consensus of this meeting was that Method 418.1 was a good method for diesel and heavier petroleum products. However, not everyone agreed on the best way to analyze for gasoline. Some felt that a modified version of Method 8015 was the best way to perform this analysis, although not all agreed on the best way to deal with the fact that there was no consistent standard to use in order to quantify the results. Some felt that 418.1 was still a reasonable method for screening even if the product was gasoline.

In continuing discussions with staff members from other state programs, the Department learned that other states were also trying to deal with the same problem and that the state of Tennessee had agreed to coordinate a meeting with EPA on this topic. This meeting was held in Nashville, TN on June 14-15, 1989. Those in attendance were:

Michael Anderson, Oregon DEQ
Bruce Bauman, American Petroleum Institute
George Brewer, University of Iowa
Rick Gates, Oregon DEQ
Kimberly Green, EPA-OUST
Elizabeth Harvey, Chevron Research
Chuck Head, TN Dept. of Health & Environment
Robin Heriges, TN Dept. of Health & Environment
Linda McConnell, Midwest Research Institute
Tracey Oshay, Texas Water Commission
Andres Romeu, Midwest Research Institute

Gloria Wallace, TN Dept. of Health & Environment
Terry Wilks, Dynatech Precision

Participants at this meeting spent much time discussing the pros and cons of a number of different analytical methods. With respect to Method 418.1, several points were generally agreed upon:

1. This method tends to give results that are higher than those obtained by gas chromatographic methods such as a modified version of Method 8015.
2. The high "background" of TPH observed at many sites is not usually background, but rather is the result of interferences due to other natural organic matter.
3. Despite some of the problems with this method, it is still very useful for the determination of higher concentrations of semi-volatiles such as diesel and heating oil.

Although participants were in agreement that levels of gasoline contamination are probably better determined by a gas chromatographic method, there is no currently available standardized method for accomplishing this. Many laboratories have come up with their own modifications of existing methods which allow them to analyze for gasoline. However, since laboratory modifications differ, it is again difficult to compare the results of these tests or set standards based upon them.

The meeting resulted in a suggested approach that needs to be studied in order to investigate its ability to deal with the analysis of a variety of petroleum products in both soil and water. EPA will use the services of Midwest Research Institute to investigate the suggested approach through a series of both intralaboratory and interlaboratory tests.

Until another approach is evaluated and adopted, except for Method 418.1, there is no readily available, standardized and approved analytical method for use in measuring a broad range of petroleum products. Therefore, the Department feels that it must continue to require Method 418.1 for the determination of both gasoline and non-gasoline petroleum products.

The Department realizes that in requiring this analytical method, it must address the problems that result from the difficulties that have been outlined above. Therefore, the Department proposes the following:

1. That the gasoline cleanup levels be changed to.
Level 1 = 40 ppm,
Level 2 = 80 ppm, and
Level 3 = 130 ppm;

2. That this change be made under the condition that the Department will carefully review the effectiveness of these values and return to the Commission at the end of 15 months to report on how well these levels appear to be working; and
3. That if better and more appropriate standardized methods for analyzing gasoline contamination are available, the Department may request adoption of these methods to replace Method 418.1 and that this adoption request may be accompanied by a request to change the gasoline cleanup levels in recognition of the fact that a new method may yield different results than Method 418.1.

COMMENT - Miscellaneous methods comments:

Mr. Kelly Cook of CH2M-Hill wants to know why the Department requires BTEX analysis by both 5030 and 8020 since 5030 is specifically for drinking water and probably not applicable to the situation dealt with by the rules. Furthermore, Mr. Cook thinks that the Department should avoid the use of GC/MS methods since they are expensive and not as accurate as GC methods.

Ms. Kathleen Cordes questions why the Department requires BTEX analysis when there are no proposed standards for BTEX.

Mr. Rick Hess wonders why the Department provides detailed methods for soil sampling and then requests qualitative rather than quantitative tests.

Response:

Mr. Cook is in error in his comment about the methods. Method 5030 is simply the purge-and-trap extraction technique which is to be used in conjunction with either Method 8020, which is a gas chromatographic (GC) technique, or Method 8240, which is a gas chromatographic/mass spectrometric (GC/MS) technique, for the determination of volatile aromatic hydrocarbons.

Since the Department allows Method 8240 (GC/MS method) as an option rather than a requirement, the Department feels that the responsible parties can make their own decisions concerning costs. With respect to accuracy, Method 8240 easily provides the accuracy necessary for the purposes of the test.

Ms. Cordes is misinterpreting the role of the BTEX analyses. These analyses are only required in cases where there is water in the pit and a decision must be made concerning the likelihood of groundwater contamination. These situations are to be handled by the Department on a case-by-case basis. In cases where the water

is not contaminated, cleanup may continue under the proposed rules using the appropriate TPH cleanup level. In cases where the water is contaminated, further investigation and a corrective action plan will be required.

The Department requires both quantitative and qualitative tests. The quantitative tests (Method 418.1) are for the analysis of total petroleum hydrocarbons in soil samples and are used to confirm the cleanliness of the site. However, since gasoline and diesel have different cleanup levels, a responsible party desiring to use the less-stringent diesel cleanup levels must also submit proof in the form of a qualitative test that the contamination is indeed diesel and not gasoline.

COMMENT - Suggested terminology changes:

The Department received a number of comments on terminology and definitions used in the proposed rules. These comments are:

Mr. David Craig of Pacific Power thinks that the terms "permeable" and "unfractured" (340-122-330(3)) should either be defined or modifiers like significantly should be added for clarification. Mr. Craig also feels that the term "unusable" (340-122-330(4)) is used in a confusing manner in reference to aquifers and should either be defined or eliminated from the text. Finally, Mr. Craig suggests that the term "adopt" (340-122-345(5) and 350(4)) be changed since it implies that the Department must go through the full regulation adoption process to approve an alternative method.

Mr. Rick Hess of Portland General Electric thinks that "Heating Oil" should be defined differently from "gasoline" and suggests the definition in 40 CFR 280.12.

Mr. Tom Peargin of Chevron is concerned that in the definition of non-gasoline fraction hydrocarbon the term "predominantly" does not adequately allow for substances which are generally thought to be non-gasoline products. He suggests that the definition be changed to cover compounds in which the hydrocarbon number of 90% of the compounds present is greater than C9.

Response:

The terms used to describe the geologic materials listed in 340-122-330(3) were taken from the EPA Hazard Ranking System Users Manual. This document derived the terms from the following two sources: Freeze and Cherry's Groundwater (Prentice-Hall, 1979) and Davis' Porosity and Permeability of Natural Materials in Flow-Through Porous Media (De Wiest, ed., Academic Press, 1969). The Department feels, therefore, that the terms "permeable" and "unfractured" are common enough to need no further definition.

The Department also thinks that the term "unusable" needs no further clarification since it is already defined in the proposed rule as unusable "either due to water quality conditions such as salinity, etc.; or due to hydrologic conditions such as extremely low yield." This wording was also taken directly from the EPA Hazard Ranking System Users Manual.

The Department agrees with Mr. Craig's comment about the term "adopt" and has changed the wording in 340-122-345(5) and 340-122-350(4) to "approve."

The proposed rules contain no definition of "Heating Oil" since that term has already been defined in the existing rules (OAR 340-122-210(8)). The definition in the existing rules is taken from 40 CFR 280.12 and is the definition suggested by Mr. Hess.

Mr. Peargin's comment about the definition of "non-gasoline fraction" points out the difficulty in defining complex mixtures. Because of the complexity of these products and the way that they are produced, there is a fair amount of overlap of constituents from gasoline to jet fuel to diesel and heating oil. After conversations with Elizabeth Harvey, Senior Research Chemist in the Analytical Research and Services Division of Chevron, the Department has decided to redefine both "gasoline" and "non-gasoline fraction." Gasoline will be defined as "any petroleum distillate used primarily for motor fuel of which more than 50% of its components have hydrocarbon numbers of C10 or less." Non-gasoline fraction will be defined as "diesel and any other petroleum distillate used for motor fuel or heating oil of which more than 50% of its components have hydrocarbon numbers of C11 or greater."

COMMENT - Decommissioning rule amendment changes:

Mr. Rick Hess of Portland General Electric suggests that tank and line tightness tests be allowed to show that no leaks have occurred rather than relying solely on soil tests.

Response:

The Department disagrees with this suggestion. Tank and line tightness tests provide no information about soil contamination. These tests only indicate whether or not the system appears to be free of leaks at the day and time that the test is performed. Soil contamination may have resulted from overfills or from tank and line leaks that have been repaired in the past.

COMMENT - Alternative cleanup technologies:

Mr. Michael Fitz of the Oil Heat Institute believes that the Department should encourage the use of alternative cleanup technologies rather than just rely on excavating contaminated soils and taking them to landfills.

Response:

The Department agrees that alternative cleanup technologies are important. However, the Department does not feel that it should require the use of specific cleanup methods. The purpose of the proposed rules is simply to define the required level of cleanup and outline how and where the confirmatory sampling must be done. In the case of minor contamination, disposal in a landfill may still be the most economical cleanup alternative. As newer technologies become available and more competitive economically, the Department feels that they will be increasingly relied upon.

In order to make sure that the proposed rules are flexible enough to allow for future technologies, the Department made some changes in the wording in 340-122-340 and 340-122-345. These changes were:

1. In 340-122-340 where the rules referred to soils being removed, the wording has been changed to "removed or remediated."
2. In 340-122-345, the sample collection methods have been modified to allow for alternative collection techniques.

The Department feels that these changes will broaden the applicability of the proposed rules while still maintaining protection for public health, safety, welfare and the environment.

MATRIX-BASED CLEANUPS FOR LEAKING UNDERGROUND STORAGE TANKS

Leaking underground storage tanks (USTs) and the soil and groundwater contamination they cause can have a significant impact on business and the environment. Cleanups for leaking USTs can range in complexity from a simple site, requiring the excavation and removal of a small amount of contaminated soil, to a complex site where extensive soil and groundwater contamination is found, including free floating petroleum in drinking water wells. To ensure that investigation and cleanup of these sites is accomplished as quickly and effectively as possible, the Department of Environmental Quality (DEQ) adopted "Cleanup Rules for Leaking Petroleum Underground Storage Tank Systems (OAR 340-122-201 to 340-122-260)" in November 1988. These rules outline the basic cleanup approaches that should be taken for any site where leaking underground storage tanks containing petroleum are identified, regardless of the site's complexity.

To deal with simple cleanups, where the only problem is soil contaminated with motor fuel or heating oil, the Department is proposing an addition to the UST Cleanup Rules. This addition, the Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil (OAR 340-122-301 to 340-122-360), was required by the UST Cleanup Rules and offers a simple alternative for determining soil cleanup levels at sites where the release is small and groundwater has not been affected. The key feature of this addition is a matrix that gives the owner or operator of a contaminated site a pre-approved soil cleanup level. Using this option allows the owner of a contaminated site to complete the cleanup process without having to develop and execute a site-specific corrective action plan as required in other sections of the UST Cleanup Rules. However, if there is evidence that groundwater has been contaminated, large amounts of petroleum have been released into the soil, vapors have collected in nearby structures, or the contamination has moved off-site, more comprehensive cleanup measures will be required.

The matrix is applicable to a broad range of situations. Five site-specific factors are taken into account when using the matrix: Depth to groundwater, annual precipitation, the geology of the area, current or potential uses of groundwater at the site, and the number of people who could be affected by the contamination as well as the distance to the nearest well. Each of these factors is given a numerical value which, when added together, gives the site a Matrix Score. This Matrix Score is then used to select the minimum required soil cleanup level. The owner or operator also has the option of omitting the matrix scoring steps, selecting the most stringent soil cleanup level specified in the matrix, and cleaning a site to that level.

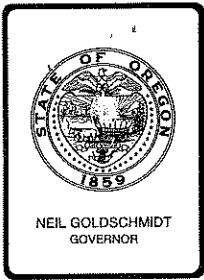
Because the matrix can only be used for the limited condition of soil contamination resulting from motor fuel or heating oil leaks, other, more complex cleanup processes are outlined in UST Cleanup Rules. These more stringent measures are required for sites where:

- Petroleum products may affect the groundwater;
- Strong vapors are present in soils, buildings, or along underground utility or sewer lines;
- The contamination has moved, or may move to adjacent properties;
- Non-petroleum contaminants are mixed with the leaking petroleum product; or
- Other conditions are present, such as fragile natural ecosystems.

Generally, the decision to use the matrix option will be made by the owner or operator after completing the Initial Response procedures (OAR 340-122-220) and the Initial Abatement Measures and Site Check procedures (OAR 340-122-225) required by the current rules. Owners or operators of a contaminated facility may choose to develop a corrective action plan under the UST Cleanup Rules if they believe that an alternate cleanup level would be protective of human health, safety, welfare and the environment. In this case, the Department must approve the corrective action plan.

Whichever cleanup option is selected, proper sampling and reporting are important. The Department's determination that a cleanup is sufficient is based on the results of laboratory tests demonstrating that the required cleanup levels have been achieved. Therefore, a site cleanup report should be accompanied by sufficient sampling and analysis to ensure the quality of the data. The proposed rules outline the types of sample collection and analytical methods that are acceptable as well as the number of samples that must be taken and the methods for evaluating the results.

Overall, the UST Cleanup Rules have been developed to give both the Department and the owners and operators of leaking underground storage tanks the flexibility needed to address the large number of sites throughout Oregon. By providing a range of options, owners and operators, with DEQ guidance and oversight, can select the option that is best suited to their particular situation. This flexibility will ensure that high quality cleanups are completed as quickly and efficiently as possible in order to protect Oregon's environment.



Environmental Quality Commission

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REQUEST FOR EQC ACTION

Meeting Date: July 21, 1989
Agenda Item: I
Division: Water Quality
Section: Planning/Monitoring

SUBJECT:

Bear Creek - Establishment of Total Maximum Daily Loads

PURPOSE:

Water Quality standards are violated in Bear Creek basin for pH, dissolved oxygen, and ammonia toxicity standards. The proposed criteria will provide the basis for developing and allocating the total maximum daily loads (TMDLs) for nutrients and biochemical oxygen demand (BOD) in Bear Creek, a tributary to the Rogue River. The TMDLs are required to achieve dissolved oxygen, pH, and ammonia toxicity standards. Achieving water quality standards is required to protect the recognized beneficial uses of fish and aquatic life, salmonid spawning and rearing, anadromous fish passage, fishing, and aesthetic quality.

ACTION REQUESTED:

- Work Session Discussion
 - General Program Background
 - Potential Strategy, Policy, or Rules
 - Agenda Item ___ for Current Meeting
 - Other: (specify)

- Authorize Rulemaking Hearing
- Adopt Rules
 - Proposed Rules Attachment A
 - Rulemaking Statements Attachment B
 - Fiscal and Economic Impact Statement Attachment C
 - Public Notice Attachment D
 - Hearing Officer's Report Attachment E
 - Written Comments Attachment F
 - Response to Comments Attachment G

X Time Constraints:

The Department is required under a Federal District Court Consent Decree to establish TMDLs for identified water quality limited streams at the rate of 20 percent annually, but in no event less than two streams annually. Allocations must be established for Bear Creek to comply with the requirements stated in the consent decree. Oregon's failure to establish allocations will require the Environmental Protection Agency to notice in the Federal Register proposed action within 90 days after the deadline.

DEVELOPMENTAL BACKGROUND:

<u> </u> Advisory Committee Report/Recommendation	Attachment	<u> </u>
<u>X</u> Hearing Officer's Report/Recommendations	Attachment	<u>E</u>
<u>X</u> Response to Testimony/Comments	Attachment	<u>G</u>
<u>X</u> Prior EQC Agenda Items: (list)		
March 13, 1987, Agenda Item O	Attachment	<u> </u>
(Not Attached)		
<u> </u> Other Related Reports/Rules/Statutes:	Attachment	<u> </u>
<u> </u> Supplemental Background Information	Attachment	<u> </u>

REGULATED/AFFECTED COMMUNITY CONSTRAINTS/CONSIDERATIONS:

1. The City of Ashland operates the Ashland Sewage Treatment Plant (STP). The Ashland STP is the major source of nutrients and biochemical oxygen demand to Bear Creek. Bear Creek does not have enough flow to assimilate the waste from the Ashland STP. Inadequate dilution is most apparent in the late summer - fall when flows are routinely below 15 cubic feet per second (cfs).

Effluent limitations based on Bear Creek's assimilative capacity would require significant load reductions from the Ashland STP during the summer through late fall. Load reductions could occur through alternative disposal or improved treatment. Either option would be expected to increase cost of treatment for the City of Ashland.

The proposed rule will define a final compliance date and require a program plan which describes strategies and time frames for achieving the waste load allocations (WLAs). Several additional localized water quality issues and concerns, such as chlorine toxicity, are discussed in this staff report. The Department expects these local issues to be addressed prior to the compliance date.

Achieving water quality standards will require modifying existing treatment facilities. The Ashland STP will be required to achieve the minimum design requirements already described in OAR 340-41-375(1) for the basin, unless exempted from these rules by the Commission, as well as waste load allocations.

2. Industries with discharging log ponds currently have either a General permit or a site specific National Pollution Discharge Elimination System (NPDES) permit. Achieving proposed winter WLAs may require additional controls. Those industries will be required to submit program plans to the Department describing strategies and time frames for achieving the WLAs.
3. Nonpoint source controls from urban and agricultural areas will be required to achieve the proposed TMDLs. Increased cost may be associated with achieving the load allocations (LAs). Program plans identifying strategies and options for achieving the nonpoint source load allocations will be required from designated agriculture and forestry management agencies, as well as from Jackson County and the incorporated cities within the Bear Creek Basin. The Rogue Valley Council of Governments currently coordinates a water quality program and may provide assistance and coordination of program plans within the basin.

The Department of Agriculture has been identified as the lead agency for agricultural nonpoint sources. The State Department of Forestry is the lead agency for state and private forest lands. Memorandums of Agreement between the DEQ and these Departments will describe appropriate program plans.

PROGRAM CONSIDERATIONS:

New tasks established by this rule will have to be assumed by existing staff. The added workload of this TMDL is significant. New tasks include development of interim allocations; program plan reviews; holding public hearings on program plans; report to EQC; continuing proactive involvement with communities in the Bear Creek Basin; increased monitoring requirements; and issuance of modified permits which incorporate compliance conditions, schedules and permit limitations based on wasteload allocations.

ALTERNATIVES CONSIDERED BY THE DEPARTMENT:

Several alternatives to the proposed rule were submitted during the public hearing or recommended during review and discussion with Environmental Protection Agency staff.

1. Summer limits of 100 micrograms per liter ($\mu\text{g}/\text{l}$) total phosphorus based on the EPA suggested criteria.

Alternative phosphorus levels were discussed in the original staff report. Several commenters suggested that 100 $\mu\text{g}/\text{l}$ total phosphorus be adopted, primarily for consistency with EPA recommended criteria. One individual supported the 80 $\mu\text{g}/\text{l}$ phosphorus criteria so that pollutant levels would be reduced to the greatest extent possible.

2. Alternative time frames for the definition of "summer low flow" period were proposed by several commentators. In summary, the request involved the deletion of the months of April, May, and November from the definition of low flow season.
3. Most commentators requested that the final compliance date be extended to the winter of 1996, based on the program plans adopted by Ashland. In effect, nutrient reductions would not be expected to occur until the summer of 1997.
4. During review of the proposed criteria, suggestions were made to refine the winter BOD criteria to be defined as the instream BOD₅ as measured at Kirtland Road. This alternative would provide the primary advantage of measuring BOD₅ during ambient surveys and focusing in the area of winter dissolved oxygen violations. This alternative would not change the waste load allocations for Ashland, however.

DEPARTMENT RECOMMENDATION FOR ACTION, WITH RATIONALE:

1. The Department recommends that the Commission adopt the 80 $\mu\text{g}/\text{l}$ total phosphorus as proposed. The Department believes that site specific data justifies a lower phosphorus value than national criteria suggested by EPA. The EPA recommends that site specific data be used where available.
2. The Department recommends that the Commission adopt the modified language in the rule that defines the summer low flow period as approximately May through November. April is characteristically a winter high flow period and should not be included in the summer low flow definition.

The existing definition of low flow as outlined in OAR 340-41-006(15) states that ". . . the low flow period has been approximated by the inclusive months. Where applicable in a waste discharge permit, the low flow period may be further defined." The existing low flow period in the Rogue Basin Plan is defined as approximately from May through October (OAR 340-41-375). In Bear Creek, critical low flows have routinely been observed to persist through November. Therefore, the Department recommends that November be included in the proposed rule.

The diurnal pattern of pH violations in Bear Creek has been observed during May at Kirtland Road. The Department recognizes that high flow conditions can be expected to persist through May in some years. However, the Department believes it is appropriate to retain the month of May in the definition of low flow period and provide appropriate refinements to the definition in permits, if warranted. The Department therefore recommends that the Commission not remove the month of May from the low flow period definition.

3. Final compliance date:

The Department recommends that the Commission retain the proposed five year compliance deadline. The proposed rule requires that all program plans be subject to public comment. No comments were proposed suggesting eliminating this requirement from the proposed rule. The program plan submitted by Ashland provides an alternative final date, time schedule, and justification for the alternative date. The Department has not fully reviewed Ashland's program plan or accepted public comment on the plan. Until this step in the process is complete, approximately 180 days following adoption, the Department can not support the alternative date suggested in the program plan.

Similar to other concerns discussed in the Hearing Officer's report, the Department recognizes that all the answers are not yet known. The program plans are expected to provide a rational strategy and time frame for achieving the TMDL. Public comment on strategies for attaining the beneficial uses of Bear Creek is an important aspect of the Department's review process. The Department does not want to supersede the public review process and recommends that the proposed final compliance date be retained until the review process is completed. Additional language is included in the proposed rule that would allow modifications to the final compliance date as program plans are approved.

4. Measurement of BOD at Kirtland Road during the winter:

Biochemical oxygen demand has several components, including the five-day demand (BOD₅), the nitrogenous demand, and the ultimate demand. The BOD₅ test is measured during the ambient surveys. The other components are calculated from instream data or by long-term laboratory tests. The BOD₅ offers the advantage of being directly measured in the field. As such, it offers a readily available measurement to determine the effectiveness of the TMDL.

Observed BOD₅ values in Bear Creek are higher below Ashland's discharge than at Kirtland Road. There is also greater assimilative capacity for oxygen demand in the upper portions of Bear Creek than in the lower sections. Due to greater assimilative capacity, higher BOD levels could exist without leading to a violation of water quality standards.

It is important to define where the BOD levels are to be measured. The originally proposed levels represented the maximum level of BOD that could exist below Ashland STP. These levels are greater than those observed at Kirtland Road. Dilution and instream attenuation reduce the BOD concentrations between Ashland and Kirtland Road. EPA felt that the proposed levels implied a TMDL which was much higher than existing loads.

Measuring the BOD₅ level at Kirtland Road provides a longer historical record for evaluation. Measurement at Kirtland Road will also allow the load to the Rogue to be directly interpreted. Using the measured BOD₅ allows for direct comparison of the ambient data to the criterion. Therefore, the Department suggest that the criterion be 2.5 mg/l BOD₅ as measured at Kirtland Road.

CONSISTENCY WITH STRATEGIC PLAN, AGENCY POLICY, LEGISLATIVE POLICY:

The proposed rule is consistent with the approach for establishing TMDLs on water quality limited stream segments identified in EQC Agenda Item O, March 13, 1987.

The establishment of phosphorus and oxygen demand criteria are necessary to protect the recognized beneficial uses of Bear Creek.

The Federal Clean Water Act, under Section 303, requires that pollution limits, termed Total Maximum Daily Loads, be established in waters that do not meet standards, in either

numerical or narrative form, even after technology-based limitations have been applied.

In December 1986, the Northwest Environmental Defense Center (NEDC) filed suit in Federal District Court against the Environmental Protection Agency to ensure that total maximum daily loads would be established and implemented for waters in Oregon identified as being water quality limited. On June 3, 1987, Federal Judge James Burns signed a consent decree between NEDC and EPA describing a schedule for establishing TMDLs in Oregon. Bear Creek was one of the streams identified in the consent decree.

ISSUES FOR COMMISSION TO RESOLVE:

1. The proposed rule will require Ashland to modify treatment plant operation. This modification will require that the treatment plant be upgraded to meet existing basin treatment plant design requirements as discussed in the staff report. The Commission may allow exemption from the dilution rule in the basin-wide design criteria. The Commission has been asked to provide this exemption for Ashland.

The Department does not view the establishment of a TMDL as superceding existing basin requirements. Achieving the TMDL requirements will protect the beneficial uses of Bear Creek. Achieving the TMDL may provide technical justification for exempting Ashland from the dilution rule.

No economic information has been presented that would justify exempting Ashland from the dilution rule. Prior to allowing an exemption, Ashland needs to demonstrate that the costs of complying with the rule are unreasonable.

The Department recommends that the Commission not exempt Ashland from the dilution rule at this time. Options for complying with the TMDL and the basin requirements should be reviewed. The decision to exempt Ashland from the basin treatment criteria will depend in part on information generated during the review of options.

2. The Commission has been asked to retain the concept of using tributary streams as conduits for waste to Bear Creek. This concern applies primarily to log ponds which discharge to tributary streams.

Recognizing tributary streams as conduits for waste would be equivalent to identifying the tributary as the mixing zone for the discharge. The Department may suspend standards or set less restrictive standards in defined mixing zones as

long as several specific conditions are met. OAR 340-41-365(4)(A) states that the mixing zone shall be free from:

- o Materials that will cause acute toxicity;
- o Materials that will settle to form objectional deposits; and
- o Floating debris, oil, or scum.

One of the major concerns with wastewater discharge to a tributary is the lack of dilution. Log pond dischargers question if the 50:1 dilution required in general permits for log pond discharge exist in the tributaries. However, attenuation of pollutants may occur in the tributaries which would result in less direct load to Bear Creek.

Beneficial uses of the tributaries are defined in the Rogue Basin Plan. The Department of Fish and Wildlife has stated that fish do not utilize the two creeks that receive direct discharge from log ponds.

The Department recommends that the Commission reject the concept of tributary streams as conduits for log pond waste. If this concept is accepted, it would indicate that less restrictive standards apply in small streams and that beneficial uses are not expected to be attained.

The Department expects that the program plans submitted by the log pond dischargers will evaluate the effect of discharge on the receiving waters' beneficial uses. This evaluation will be used to determine if an appropriately sized mixing zone can be defined for the discharge of log pond effluent.

Permits will be modified to include the TMDL requirements including any modifications to the mixing zone definition. Program plans may be opened to public comment. This process will allow direct public input on what are the appropriate uses of the tributary streams.

3. The Commission has been asked to direct the Department to include instream attenuation in the initial load and waste load allocations.

Instream attenuation is the process which removes phosphorus or other pollutants from the water. As described in the Response to Testimony, the allocation process includes attenuation as a negative load allocation. The net load allocations for a jurisdiction would not change by defining the amount of attenuation that will occur. However, the

Meeting Date: July 21, 1989
Agenda Item: I
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distributable load will depend to some degree on the amount of attenuation that will occur.

The preliminary load allocations discussed to date do not include attenuation. The load allocations discussed to date define the net allocation required to achieve the instream criteria. The proposed rule will require the Department to establish within sixty days interim allocations for the development of program plans. The Department is working with the local advisory group to develop the interim allocations. The advisory group provides an appropriate forum for the discussion of advantages and disadvantages of estimating attenuation in the allocation procedure.

The Department recommends that the Commission take no action at this time as to whether an estimate of attenuation should be included in the interim allocations.

INTENDED FOLLOWUP ACTIONS:

- o File Adopted Rules with the Secretary of State.
- o Establish Interim Allocations.
- o Evaluate, hold Public Hearings, and respond to Program Plans.

Approved:

Section:

Alex C. Mullane

Division:

Ryckia Taylor

Director:

Fred Hansen

Report Prepared By: Robert Baumgartner

Phone: 229-5877

Date Prepared: June 28, 1989

BB:kjc
PM\WJ1980
July 13, 1989

SPECIAL POLICIES AND GUIDELINES

340-41-385

1. In order to improve water quality within the Bear Creek subbasin to meet existing water quality standards for dissolved oxygen and pH, the following special rules for total maximum daily loads, waste load allocations, load allocations, and program plans are established.

(a) After the completion of wastewater control facilities and program plans approved by the Commission under this rule and no later than December 31, 1994, unless otherwise modified by program plans no activities shall be allowed and no wastewater shall be discharged to Bear Creek or its tributaries without the authorization of the Commission that cause the following parameters to be exceeded in Bear Creek:

<u>[Summer, Irrigation, and] Low-Flow Season[s]</u>		
Approximately		
<u>[April] May 1 through November 30</u>		
<u>Ammonia Nitrogen</u> <u>Nitrogen as N (mg/l)</u>	<u>Instream Five Day</u> <u>Biochemical Oxygen</u> <u>Demand (mg/l)¹</u>	<u>Total Phosphorus</u> <u>as P (mg/l)</u>
0.25	3.0	0.08

<u>[Winter] High Flow Season</u>	
Approximately	
<u>December 1 through [March]April 3[1]0</u>	
<u>Ammonia Nitrogen</u> <u>Nitrogen as N (mg/l)</u>	<u>Instream Five Day</u> <u>Biochemical Oxygen</u> <u>Demand (mg/l)^{1,2}</u>
1.0	[7.0]2.5

¹ As measured at the Valley View Road Sampling Site. For the purposes of waste load allocations, the biochemical oxygen demand is calculated as the ammonia concentration multiplied by 4.35 and added to the measured effluent biochemical oxygen demand.

² Median value as measured at the Kirtland Road sampling site

* Precise dates for complying with this rule may be conditioned on physical conditions, such as flow and temperature, of the receiving stream and shall be specified in individual permits or memorandums of understanding issued by the Department.

- (b) The Department shall within 60 days of adoption of these rules distribute initial waste load and load allocations to point and nonpoint sources in the basin. These loads are interim and may be redistributed upon conclusion of the approved program plans.
- (c) Within 90 days of adoption of these rules, the City of Ashland shall submit to the Department a program plan and time schedule describing how and when they will modify their sewerage facility to comply with this rule and all other applicable rules regulating waste discharges.
- (d) Within [90 days] 12 months of adoption of these rules the industries permitted for log pond discharge, Boise Cascade Corporation, Kogap Manufacturing Company, and Medford Corporation shall submit program plans to the Department describing how and when they will modify their operations to comply with this rule and all other applicable rules regulating waste discharges.
- (e) Within 18 months after the adoption of these rules Jackson County and the incorporated cities within the Bear Creek subbasin shall submit to the Department a program plan for controlling urban runoff within their respective jurisdictions to comply with these rules.
- (f) Memorandums of Agreement developed following adoption of this rule between the Departments of Forestry and Agriculture and the Department of Environmental Quality shall require that program plans for achieving specified load allocations of state and private forest lands and agricultural lands respectively be developed within 18 months of rule adoption.
- (g) Program plans shall be reviewed and approved by the Commission. All proposed final program plans shall be subject to public comment and hearing prior to consideration for approval by the Commission.

STATEMENT OF NEED FOR RULEMAKING

Pursuant to ORS 183.335(7), this statement provides information on the Environmental Quality Commission's intended action to adopt and amend rules.

(1) Legal Authority

ORS 468.735 provides that the Commission by rule may establish standards of quality and purity for waters of the state in accordance with the public policy set forth in ORS 468.710. ORS 183.545 requires a review every three years of state agency Administrative Rules to minimize the economic effect these rules may have on businesses. ORS 183.550 requires, among other factors, that public comments be considered in the review and evaluation of these rules. The Clean Water Act (Public Law 92-500, as amended) requires the states to hold public hearings, at least once every three years, to review applicable water quality standards. Section 303 of the Act further requires that Total Maximum Daily Loads be established for water quality limited stream segments.

(2) Need for the Rule

The Environmental Quality Commission, at its meeting on March 13, 1987, approved the process identified by the Department for establishing Total Maximum Daily Loads (TMDLs), including the proposed schedule for completing Phase I of the process for ten stream segments and one lake. To start the process, the Commission concurred with the Department's intent to place the Tualatin River TMDLs on 30-day notice for public review and comment, thus initiating the entire TMDL/WLA (Waste Load Allocation) process for Bear Creek.

(3) Principal Documents Relied Upon in this Rulemaking

Clean Water Act as amended in 1977.

Quality Criteria for Water, 1986. EPA.

Code of Federal Regulations, 1987 (40 CFR) Part 130 - Water Quality Planning and Management.

State/EPA Agreement, July 1987. Program Document for FY 1988.

Fiscal and Economic Impact Statement

Overall Impact

Adoption and implementation of the proposed amendments to water quality standards for the Bear Creek subbasin will result in increased cost for wastewater treatment and control. These increased costs will be limited to Ashland, the only community which discharges effluent to Bear Creek. The City of Ashland will receive specified waste load allocations (WLAs), to the extent that these waste load allocations require substantial and expensive improvements to treatment capability, there will be significant fiscal impacts. Cost associated with achieving the specified WLAs may not however be greater than the costs incurred to achieve existing minimum design criteria for treatment and control of wastes for the Rouge Basin (OAR 340-41-375).

Specific WLAs will be assigned to three industries with permits to discharge log pond effluent to Bear Creek. To the extent that these allocations require significant changes in operation procedures, there may be significant fiscal impacts.

The proposed rules will lead to the establishment of nonpoint source load allocations. The load allocations require implementation of management practices, passive treatments, and nonpoint source controls in urban and agricultural areas in the Bear Creek subbasin. To the extent that these load allocations require additional management practices and controls, there may be significant fiscal impacts.

The actual fiscal impacts to the communities cannot be described at this time because the cost for alternative options are not available. The proposed rule establishes dates for the submittal of program plans. A component of the program plan will be to describe how and when various options and associated costs will be analyzed and described. When this information is available the cost effective alternatives can be described.

Although cost information is not available, it is possible to ascertain who may incur fiscal impacts, how they may be impacted, and where the impacts may occur. Local governments may be directly impacted. If capital investment is required, they will have to secure cash from bond sales or from loans. Operating expenses may increase to cover operation and maintenance of new facilities. Sewerage system users may be indirectly impacted. Local governments may have to increase user charges to pay off the bonds and/or loans; system users would have to pay the increased charges. These users include homeowners, small businesses, and large businesses. If business operating expenses increase, the public may be indirectly impacted through increased product prices. Property owners could also be indirectly impacted through property tax increases if operating expenses increase for public

institutions such as schools. Table 1 presents a summary of possible fiscal and economic impacts which could result from waste load allocation to Bear Creek Basin streams. Once cost information is available, these possible impacts will be evaluated.

TABLE 1

SUMMARY OF POSSIBLE FISCAL IMPACTS--BEAR CREEK BASIN

WHO IS IMPACTED?	HOW ARE THEY IMPACTED?	WHERE ARE THEY IMPACTED?
Local Government	Bond Sale or Loan-Direct	Cash Outlay-1 time
	Operating Expenses-Direct	Cash Outlays-Ongoing
General Public	Rate Increases-Indirect	Cash Outlays-Ongoing
	Price Increases-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual
Small Businesses	Rate Increases-Indirect	Cash Outlays-Ongoing
	Increased Operating Expenses-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual
Large Businesses	Rate Increases-Indirect	Cash Outlays-Ongoing
	Increased Operating Expenses-Indirect	Cash Outlays-Ongoing
	Tax Increases-Indirect	Cash Outlays-Annual

Probable Community Impacts:

Ashland. The City of Ashland's sewage treatment plant is the major source of nutrients and biochemical oxygen demand to Bear Creek. The discharge from Ashland STP is far in excess of the available dilution and assimilation capacity of Bear Creek during low flow conditions. The WLAs to this facility will require substantial facility modifications. The City is now initiating studies to describe and evaluate potential alternatives. Possible alternatives to meet the WLAs include improved treatment, irrigation, discharge to irrigation canals, discharge to the Bear Creek Valley Sanitary Authority, and land disposal. Ashland would be eligible for low interest loans from the State Revolving Fund.

Urban Areas. Urban areas within the basin include Medford, Phoenix, Central Point, Jacksonville, Talent, Ashland and unincorporated areas of Jackson County. The proposed rule will require these communities develop appropriate nonpoint source controls to achieve their specified Load Allocations. The Rouge Valley Council of Governments currently has a water quality program in the Bear Creek Basin. Additional costs are expected to achieve the IAs.

Agriculture. Agricultural return flows provide a significant load of nutrients and oxygen demand to Bear Creek. The Department of

Agriculture is the designated management agency for agriculture nonpoint source control. Achieving the load allocations may require identifying and adopting alternative best management practices.

Industry. Log pond discharges provide large loads of oxygen demand to Bear Creek. Three industries hold permits for the discharge of log pond effluent during rainfall events. Modifications to existing practices may be required to achieve specified mass loadings for the permitted log ponds. Pollution Control tax credits may be available to industrial sources to offset costs of additional pollution control facilities.

(5) Land Use Consistency

The Department has concluded that the proposed rule conforms with the statewide planning goals and guidelines.

GOAL 6 (Air, Water, and Land Resource Quality):

This proposal is designed to improve and maintain water quality in the Bear Creek subbasin by reducing pollutant loadings.

GOAL 11 (Public Facilities):

Compliance with the proposed rules would require the City of Ashland to provide program plans describing strategies for achieving pollution limits. Additional sewerage facilities may be required.

The proposed rules do not appear to conflict with other goals.

Public comment on any land use involved is welcome and may be submitted in the same manner as indicated for testimony in this notice. It is requested that local, state, and federal agencies review the proposed action and comment on possible conflicts with their program affecting land use and with statewide planning goals within their expertise and jurisdiction.

Oregon Department of Environmental Quality

A CHANCE TO COMMENT ON...

PHOSPHORUS and OXYGEN DEMAND CRITERIA for BEAR CREEK

Notice Issued: 5-4-89

Public Hearing Scheduled: 6-15-89

Comments Due: 6-16-89

**Who is
Affected**

All businesses, residents, industries, and local governments within the Bear Creek basin.

**What is
Proposed**

The Department proposes to add the attached language to the special policies and guidelines contained in Oregon Administrative Rules (OAR) Chapter 340, Division 41-385(1). The proposed language establishes instream phosphorus, ammonia, and oxygen demand criteria for Bear Creek and defines the time period for when the criteria will apply.

The proposed rule would require the Department to establish interim waste load (WLAs) and load allocations (LAs) for the purpose of developing program plans within 60 days of the adoption of the proposed rule.

The proposed rule will require the City of Ashland to submit a program plan to the Department describing a strategy for reviewing and selecting options for achieving specified WLAs.

The proposed rule would require industries permitted for log pond discharges to submit a program plan describing how and when they will modify their operations to achieve the specified WLAs.

The proposed rule will require that Jackson County and the incorporated cities within Jackson County submit program plans for controlling urban nonpoint sources of phosphorus and biochemical oxygen demand within their respective jurisdictions.

**What are
the
Highlights**

The Federal Clean Water Act, under section 303, requires that pollution limits known as total maximum loads be established on streams that are not achieving water quality standards in either numerical or narrative form. Bear Creek does not achieve the dissolved oxygen standard and routinely exceeds the pH standard during summer low flow. The pH violations result from nuisance algal growth which is supported by excessive nutrient concentrations. Dissolved oxygen violations are due to excessive loads of biochemical oxygen demand.



811 S.W. 6th Avenue
Portland, OR 97204

11/1/86

FOR FURTHER INFORMATION:

Contact the person or division identified in the public notice by calling 229-5696 in the Portland area. To avoid long distance charges from other parts of the state, call 1-800-452-4011.

The Department believes that phosphorus is the key nutrient supporting the excess algal growths. The proposed rule establishes the instream phosphorus level necessary to prevent the pH standard from being exceeded. Instream criteria for ammonia and biochemical oxygen demand are necessary to prevent dissolved oxygen violations.

The Department will accept public comment on the proposed additions and amendments to the special policies and guidelines contained in OAR 340-41-385(1). The proposed language for additions and amendments is attached.

**How to
Comment**

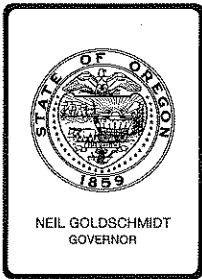
Public hearings to receive comments on the proposed additions and amendments to OAR 340-41-385 (1) as follows:

When	Where
Thursday June 15, 1989 1:00 P.M.	Jackson County Courthouse Auditorium 100 S. Oakdale (at 8th) Medford, OR

The Department will accept written comments received by 5:00 P.M, June 16, 1989. Comments should be addressed to:

Mr. Robert Baumgartner
Department of Environmental Quality
811 SW 6th Ave.
Portland Or. 97204

PM\WC4931



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

MEMORANDUM

TO: Environmental Quality Commission DATE: June 28, 1989

FROM: Mary M. Halliburton, Hearing Officer *MMH*

SUBJECT: Rulemaking Hearing on Proposed Rule OAR 340-41-385(1)

A public hearing was held at 1:00 p.m. on June 15, 1989, at the Jackson County Courthouse Auditorium, Medford, Oregon. The purpose of the hearing was to receive testimony on proposed rule language which would: 1) establish instream phosphorus, ammonia, and oxygen demand criteria for Bear Creek; 2) define the time for when the criteria would apply; 3) require the Department to establish interim waste load (WLAs) and load allocations for the purpose of developing program plans within 60 days of the adoption of the rule; and 4) require the City of Ashland, Jackson County, industries and incorporated cities within Jackson County to submit program plans describing a strategy for achieving these goals.

Public notice was given by publication in The Bulletin on May 4, 1989, as required by law, and by a mailing to the Department's list of interested persons requesting notification or known to be interested in the matter. At the public hearing, but prior to receiving oral testimony, Bob Baumgartner, Water Quality Planning Section, briefly summarized the proposed rule language and why the Department proposes total maximum daily loads for specific pollutants in Bear Creek.

The hearing officer announced that hearing record would be closed June 16, 1989 and that written comments must be postmarked by June 16, 1989. The hearing officer also noted that written testimony received after June 16, 1989 would be offered to the Commission. As of the date of this report, one letter was received after the comment period closed. Mr. John P. Brown wrote that he applauds the plan to restore Bear Creek and asks that the Department not yield to resistance from agricultural and business/industry.

Seven persons offered oral testimony at the hearing. Written testimony was received from eleven persons and interest groups (Attachment F).

Summary of Oral Testimony

1. Steve Hall, Public Works Director, City of Ashland.

Mr. Hall offered oral comments and submitted a letter and the City's draft program plan. He summarized the City's active participation to date in working with Rogue Valley Council of Governments (RVCOG) and the Department to improve Bear Creek's water quality. Recently, the City formally adopted a policy of cooperation with the DEQ and EQC on this project. The City acknowledges they are a significant provider of nutrients to Bear Creek. The City's STP is meeting its permit limits.

He highlighted the City's concerns and offered that Steve Krugel would provide more detail. His highlights included noting that Bear Creek is not a natural stream; over 85 percent of the flow is supplemented by diversion from the Klamath Basin. Talent Irrigation District diverts over two thirds of the flow above Ashland's discharge. The City urges the EQC to adopt reasonable rules. The City requests the following:

- a. The EPA criteria of 0.01 mg/l phosphorus be adopted.
- b. The compliance date be extended from December 1994 to November 1996, as outlined in their program plan.
- c. The low flow/high flow season dates be modified with the low flow beginning June 1 instead of April 1.
- d. The Department be required to consider the assimilative capacity in setting the TMDL.

He stressed that Bear Creek is not the Tualatin River and requirements should be based on the uniqueness of Bear Creek. The effect of the phosphorus limits on the City of Ashland need to be carefully considered.

2. Steve Krugel, Brown and Caldwell Engineering on behalf of the City of Ashland.

Mr. Krugel's comments summarized and described the basis for the City's petition to change the compliance dates and the low flow/high flow season dates, and for DEQ to establish the waste load allocation based on the assimilative capacity of Bear Creek rather than on the existing dilution rule. He noted these requests were described in written testimony and the program plan submitted as part of the hearing record.

He requested that the compliance date be changed from December 1994 to November 1996. The proposed rule sets forth a five-year compliance date. This was done in the absence of more detailed information now available as presented in the program plan. The proposed five years either seems to be an estimate based on consistency with the Tualatin TMDL or assumes hypothetical time frames for constructing a new STP.

Mr. Krugel expressed that an extension is merited because of the lack of hydrologic and water quality data on Bear Creek. Data will need to be collected to establish appropriate design criteria and cost estimates for storage/land irrigation alternatives. At least one year of additional data will need to be collected. The City will have to look at an array of alternatives that may requires lengthy negotiations regarding institutional arrangements. They must evaluate conveyance to Medford but want to make sure the problem is not transferred to the Rogue River. Ashland is small and has limited resources and is not able to fast track a project as easily as a large municipality.

The City wishes to petition the dates proposed for high flow and low flow seasons be changed. He described the mean flow conditions in April and in May compared to the summer as presented in written testimony. Dates for these stream flow seasons must be set accurately since they would be used as bench marks in permits. The low flow should be set beginning June 1. The high flow should extend from December through May.

The City petitions that the Department reverse its position that establishment of TMDLs does not supersede the applicability of the existing dilution rule. The dilution rule should not be the basis for establishing waste load allocations. The dilution rule is a "rule of thumb" for assessing assimilative capacity. With all other things being equal, a stream with high reaeration can assimilate more wastes than one with comparable flow with low reaeration. The dilution rule does not recognize this, whereas the TMDL process does. Ashland would have to put out effluent with one-half the characteristics than they otherwise would under a TMDL based load that accounts for assimilative capacity. The dilution rule places an unnecessary burden on the City and is not justified. In the absence of detailed data necessary to establish assimilative capacity and re-aeration, the dilution rule is a useful tool.

3. Eric Dittmer, Rogue Valley Council of Governments.

Mr. Dittmer offered oral and written comments. He displayed two waste samples collected from below Central Point and below Medford to demonstrate that one was greener and the effect of nutrient loads on Bear Creek. He supports the Department's efforts to establish a TMDL for Bear Creek and summarized the active participation of the RVCOG's member groups to improve water quality over the last 10 years. He described the flows in Bear Creek and discussed how water is used numerous times. He referred to attachments provided as part of his written testimony. He expressed concerns and questions as follows:

- a. The Department must ensure the TMDL and waste load allocations can change if warranted by further study and development of program plans by designated management agencies. He requests that monitoring continue through the planning process.
- b. He notes that the responsibilities for various nutrient sources

has not been determined. For example, who will handle small farm contributions?

- c. Local agencies expect the TMDL problem to change when Ashland reduces its loading, and the remaining share can only be estimated at this time. The Department should consider allowing nonpoint source management agencies to coordinate their effects with the City of Ashland. If Ashland's implementation schedule is extended, it would be logical to extend the time frames for dealing with nonpoint source contributors.

The RVCOG will continue to cooperate and is available to assist.

4. Don Walker, City Engineer, City of Medford.

Mr. Walker provided oral comments and submitted a letter on behalf of the City. He prefaced his remarks noting that Medford has been involved in supporting efforts of the RVCOG and the City operates an award winning STP.

Medford is concerned and active in the water quality areas. Medford asks that strong consideration be given to adopting EPA's phosphorus criteria of 100 $\mu\text{g}/\text{l}$. If this is not adopted, there should be a split standard, one for nonpoint source contributions (a lesser requirement). Point source contributors have a greater cost and need a longer lead time and thus have less flexibility. Nonpoint sources could maximize any instream capacity that is not currently provided for. Instream assimilative capacity should be re-evaluated after point sources (in particular, Ashland) make a change in their operation.

The City has actively supported a ban of phosphate detergent statewide. They also strongly support an extension of the time frame Ashland proposes for compliance. The time frame should also be extended for nonpoint source contributors. Low flow season dates currently proposed should also be modified from April 1 to June 1 as requested by Ashland.

5. Glen Patrick, Boise Cascade.

Mr. Patrick provided oral comments and written testimony.

He noted that his firm operates three facilities in the Rogue Valley. They have been proactive in environmental areas and support the concept of clean water in Bear Creek provided the program objectives are achievable and fairly and uniformly administered. Boise Cascade suggested the following be considered by the EQC:

- a. The dues dates for program plan submittals be extended by 8-12 months to enable more time for their development following the Department's establishment of waste load allocations.
- b. The dates for the high flow season be changed from December 1 through March 31 to November 1 through May 31. The proposed conditions are overly conservative, and are not consistent with

their permit requirements. The rule dates should be changed to be consistent with actual discharge conditions. They ask that DEQ allow storm water discharges when rainfall exceeds evaporation, perhaps up to six days after a storm event.

- c. Boise Cascade's current permits specify Bear Creek via tributary streams as the receiving stream. The Department should retain the concept of tributaries acting as conduits into Bear Creek. This allows credit for natural assimilation of outflows along the tributary and properly identifies Bear Creek as the receiving stream. It also allows a uniform monitoring point for determining compliance with the program.

Boise Cascade believes it will be most likely to achieve compliance with achievable objectives if these changes are made and the concept of tributary conduits is retained.

6. Myra Erwin, Vice Chair, Rogue Group - Sierra Club.

Ms. Erwin supports the Department's proposal. Although she understands some request a change in the proposed standard to 100 $\mu\text{g}/\text{l}$ phosphorus, she expressed that pollution from all sources should be reduced to the lowest possible level and 80 $\mu\text{g}/\text{l}$ should be retained as the criteria. Also, this level might allow for reserves that may be needed in the future for growth accommodation. She expressed that the proposed compliance date should be retained. She stated the more imminent the deadline the more quickly attention will be given to getting the work done. Written testimony also was submitted.

7. Larry Gill, Medford Corporation (MEDCO).

Medford Corporation has three operating facilities in the Rogue Valley. They support the concept of clean water in Bear Creek and have been involved in a progressive program of recycling and eliminating water sources in their Medford complex. They also want to see a program that is achievable, workable and fair for everyone involved. MEDCO asks that the high flow season be changed to coincide with their permit and the date for program plan submittal be extended by 8-12 months to put together a good program plan.

He reiterated that MEDCO wants the program to be successful in improving Bear Creek's water quality but they mostly want the program to be very achievable, very workable and fair for everyone.

Summary of Written Testimony

1. Jerry Lausmann, Mayor, City of Medford, letter dated June 6, 1989.

States that the City of Medford has been working over 15 years with the Rogue Valley Council of Governments (RVCOG) and DEQ to help provide gains made to date in improving Bear Creek water quality. Medford has financially supported the RVCOG and helped implement passive treatment evaluation and installation.

The City also has located, repaired, and eliminated a number (12-15) of sewage flows entering Bear Creek. A table is include with the testimony showing reduction in annual fecal coliform bacteria averages at the eight Bear Creek monitoring sites.

The City of Medford operates a regional sewage treatment plant that discharges to the Rogue River effluent of a quality that is 75% below their permitted limits.

The City pledges support of continued cooperation and offers comments to the proposed rule as follows:

- a. Bear Creek is a unique stream. Its unpredictable flows result from water reuse for irrigation and flows are not natural. Thus, achieving nonpoint source load allocation levels may be a difficult proposition. Also, Ashland might arrange a water exchange with the Talent Irrigation District to provide cleaner flows during the summer. The City, therefore, requests that the EQC adopt Alternative 1 listed in the staff report and set 100 micrograms per liter ($\mu\text{g}/\text{l}$) phosphorus for nonpoint source contributors. The 0.80 $\mu\text{g}/\text{l}$ does not reflect any instream assimilative capacity. The available capacity will become better known when point source discharges are in compliance. The City also offered that if the EQC does not modify the nonpoint source limit to 100 $\mu\text{g}/\text{l}$, DEQ should monitor Bear Creek after point source modeling or compliance is obtained to re-evaluate the load allocations for nonpoint source contributors and allow them to be raised to the least restrictive levels possible that would achieve water quality goals. Suggested rule language is included in the testimony to this effect.
- b. The City comments that meaningful gains in Bear Creek's water quality relate to Ashland STP improvements. The City of Medford suggests that the time frame outlined in Ashland's program plan (which shows compliance by 1996) apply to all entities which receive load allocations for Bear Creek.

2. John M. MacDiarmid, Rogue Flyfishers, Medford, letter dated June 10, 1989.

Letter thanks the Department for the opportunity to comment and states that the Rogue Flyfishers are involved through the Oregon Fish and Wildlife STEP program in establishing anadromous fish spawning beds in

Ashland Creek. They are interested in Bear Creek for fish passage, spawning, and rearing.

Mr. MacDiarmid expresses his reservations about the Department's enforcement of discharge standards. From his observations, stronger discharge standards will do little good if the local DEQ office does not enforce them. He notes that the beneficial uses designated for Bear Creek are the same as the Rogue River but believes the discharge standards to be nonexistent. He observed Medford Corporation discharging during unpermitted times, wrote the DEQ in April 1988, and was told to wait for the study.

Also, he does not want the discharges to be given a long lead time to comply. Since the Clean Water Act was passed, the noncomplying discharges have had over 15 years to meet swimmable and fishable water quality objectives.

He also asks how long industries with discharge permits for log pond effluent will be given to submit program plans and to achieve the WLA. Further, he asks what will happen if they are not in compliance by the proposed date of June 30, 1994.

Mr. MacDiarmid also appended to his testimony an April 4, 1988, letter to Fred Hansen about his observations of log pond discharges and his concerns about the lack of limitations and monitoring requirements on log pond discharges. The letter poses several questions concerning what action the Department will take concerning what he views to be violations of the Medford Corporation's permit. He collected a sample of the discharge and submitted analytical results for BOD₅ and TSS.

3. Larry R. Blanchard, Public Works Director, City of Central Point, Oregon, letter dated June 12, 1989.

States the City has been monitoring the proposed rules and has worked with Rogue Valley COG in analyzing the proposed nutrient levels and their effect on the community.

The City's Capital Improvement Plan identifies the need to complete a Storm Drainage System/Water Quality Master Plan, but the City will be unable to complete this work until 1995. The cost to develop a master plan may prevent communities, especially small ones, from determining the source and quantity of discharge to Bear Creek.

Central Point will need time to develop a database, then the City can analyze and identify discharges that could add to the deterioration of Bear Creek's water quality.

Central Point also recommends:

- a. Summer limits for phosphorus be set at 100 $\mu\text{g}/\text{l}$ because Bear Creek's flows are unpredictable and contingent upon rainfall, snowmelt, and irrigation of adjacent land. This is because the 80

$\mu\text{g}/\text{l}$ of phosphorus DEQ proposes does not reflect any instream assimilation capacity.

- b. The time frames that Ashland proposes in their program plan should be approved for all entities which will receive load allocations for discharge to Bear Creek.

4. Steven M. Hall, Public Works Director, City of Ashland, letter dated June 15, 1989.

Mr. Hall relates that Ashland had played an active role in the Rogue Valley to improve water quality in Bear Creek through the Federal 208 program and support of the Rogue Valley Council of Governments.

The Ashland City Council has adopted a policy of cooperation with DEQ and the EQC to reach common goals to build on accomplishments in improving Bear Creek water quality. He notes that Ashland has worked closely with the DEQ in their study, including conducting independent monitoring to supplement DEQ's data for Ashland and Bear Creek.

He notes that the City's STP has consistently treated to levels better than required by its permit and sought ways to improve effluent quality.

The City recognizes the contribution the STP makes to problems in Bear Creek and is committed to improve the STP and nonpoint discharges to achieve reasonable water quality standards in Bear Creek.

As evidence of their commitment, a program plan was prepared and adopted by the City before being required to do so by the DEQ or EQC. Ashland's comments and concerns are outlined and discussed in the testimony and include the following:

- a. Bear Creek is not a natural stream. Summer month flows are about 85% imported and used primarily for irrigation. According to a 1980 U.S.G.S. report, about 80,000 acre-feet of water is diverted annually from the Klamath Basin. Three irrigation districts use about 94,000 acre-feet annually. Talent Irrigation District diverts about two-thirds of the Bear Creek flow during the irrigation season at a point above Ashland's STP discharge.

Citing the April 14, 1989 DEQ report, Ashland notes that the EPA recommended maximum phosphorus limit is $100 \mu\text{g}/\text{l}$. This limit is above background and may not achieve the pH criteria at low flows. The City of Ashland faces a no discharge situation from April 1 through November 30 even if the limit for phosphorus is established at $100 \mu\text{g}/\text{l}$. The City is concerned about the practical ability to deal with nonpoint sources surrounding Bear Creek. The dilution rule is the basis of DEQ proposing limits of $80 \mu\text{g}/\text{l}$.

- b. The City urges the EQC to adopt reasonable rules for limits on nutrients based on history and current data on Bear Creek. The

City requests November 31, 1996 as a compliance date based on their attached Program Plan project schedule. They believe that because the 1994 date was proposed by DEQ before the receipt of the program plan, consideration should now be given to establishing a date based on the information contained in the program plan rather than on an arbitrary five-year schedule. Five years is apparently based on DEQ's desire to be consistent with Tualatin River TMDL requirements.

The testimony relates the need to collect more flow and water quality data and that existing data were taken during a drought year. More data are needed to better understand the relationship between flows at Ashland and statistical flow variations in Bear Creek at Medford. These data are needed to develop storage and land area requirements for any irrigation alternative. Other field studies and data collection also would be undertaken during the first year and are described in the program plan.

Besides the need for data collection, Ashland relates that additional time would be needed to evaluate and negotiate implementation of at least two possible treatment and disposal alternatives--discharge to the Talent Irrigation District and conveyance and treatment at the Medford STP. They also note that the population of the City is small with limited resources and they cannot marshal resources to fast track a project.

- c. The City requests the low flow season be set from about June 1 to November 30 rather than from April 1 to November 30 as proposed. Their review of flow data in Bear Creek shows that historically high mean flows are maintained through May. Mean flows in April and May are respectively six and four times July through October mean flows. They recognize low flows may extend into traditionally high flow periods and vice versa. They view it appropriate to set "approximate" dates which accurately reflect flows since these dates will likely be used in future permits.
- d. The City requests that the assimilative capacity rather than the dilution rule be the basis for establishing the Bear Creek TMDL for nutrients. Using the dilution rule would make the limits more stringent. They feel that waste loads should be limited based on instream conditions. Seasonal flow relationships are crucial in setting design criteria and rarely are there low flows both in the spring and fall. They view the dilution rule was established to limit BOD inputs to low level to clearly enable waste assimilation. However, they view the dilution rule as a conservative "rule of thumb" to protect streams with the least assimilative capacity (i.e., those having little reaeration capacity). They view the TMDL and dilution rule as attempting to regulate the same thing, but the TMDL is based on specific stream characteristics. To require Ashland to meet the dilution requirement would necessitate Ashland discharging half of what they would be allowed to discharge under a TMDL based waste load. This would limit available treatment/disposal alternatives.

Ashland considers a load based on the dilution rule to be unnecessary, burdensome, and not justified in terms of water quality improvement.

Ashland's testimony includes a copy of their draft Program Plan, dated April 1, 1989, for Improvements to the Wastewater Treatment Plant Discharge into Bear Creek.

5. Eric Dittmer, Water Quality Coordinator, Rogue Valley Council of Governments, letter dated June 15, 1989.

Mr. Dittmer's comments are based on his ten years of experience as Water Quality Coordinator for the RVCOG and are not necessarily those of each COG member agency.

He considers the reduction of nutrients in Bear Creek and its tributaries to be critical in attaining and enhancing existing beneficial uses. He relates that DEQ monitoring confirms the problem found by the U.S.G.S. and other work done in the Bear Creek Valley.

His testimony outlines and highlights progress made by local agencies over the last 10 years to reduce fecal coliform bacteria levels in Bear Creek by almost 90%. His testimony presents data on this.

He notes that, based on activities conducted and supported by Medford, Jackson County, Jackson County Soil and Water Conservation District, OSU Extension Service, local irrigation districts, and Ashland, much has been accomplished to investigate leaking sanitary sewer lines that could impact storm drains, prevent and repair on-site sewage system failures, reduce agriculture runoff, minimize sediment and nutrient impacts from the sluicing of Reeder Reservoir. Also passive treatment studies and projects have proven the benefits of natural cleaning processes and public awareness has increased through preparation and distribution of brochures.

He further relates that Bear Creek is not a typical stream and notes that flows are limited downstream by irrigation withdrawals. Storage is provided by three irrigation districts preventing Bear Creek from becoming dry in the late summer. Water is used and reused many times between Emigrant Lake and the Rogue River. Each use has the potential for increasing pollution.

Mr. Dittmer supports providing time to allow local agencies to plan for needed improvements by program plans and suggests the process also consider the following:

- a. Assure the interim numbers can be changed if warranted by new information generated by the planning process, while continuing to conduct monitoring as the planning process occurs. Data may change with more normal runoff years.
- b. Recognize that it is difficult for local agencies to react to the TMDL issue when the responsibility for various nutrient sources

has yet to be determined. He asks who will handle small farm operations.

- c. Recognize that local agencies expect that the TMDL problem to change dramatically when Ashland reduces their STP loading. The Department should consider allowing nonpoint source designated management agencies to coordinate their work with the implementation efforts by Ashland.

- 6. Glen R. Patrick, Environmental Engineer, Boise Cascade, Boise, Idaho, letter dated June 15, 1989.

States that Boise Cascade operates three wood products manufacturing facilities in the Rogue Valley and the company has always been proactive regarding environmental matters. They are committed to complying with all environmental laws and regulations. They have a NPDES permit that regulates water outflows into Bear Creek and an air contaminant discharge permit.

Provided the program objectives are achievable, fair, and uniformly administered, they support the concept of clean water in the Bear Creek subbasin.

They request the Department modify the proposed rules as follows:

- a. Extend the due date for the program plan by eight months to provide identification of potential problems. The testimony notes that the current schedule of DEQ establishing WLA for all sources within 60 days after the rule adoption would allow dischargers only 30 days to prepare a program plan since the program plan would be required within 90 days of adoption of the rule. This is insufficient time to prepare a credible program plan.
- b. Change the winter high flow season dates from December 1 through March 31 to November 1 through May 31. The dates would be incorporated into Boise Cascade's permit and the proposed dates are inconsistent with the existing permit. A realistic approach is to establish winter high flow season consistent with actual discharge conditions. They also ask that DEQ allow stormwater discharges when rainfall exceeds evaporation, perhaps up to six days after a storm event.
- c. Retain the concept of tributary conduits to Bear Creek (i.e., continue to allow discharges to tributary streams). They view this approach provides credit for natural assimilation of outflows along the tributaries of Bear Creek and properly designates Bear Creek as the receiving stream. Compliance monitoring for sources would be uniform.

Boise Cascade expresses interest in being part of a successful program to improve water quality in the Bear Creek Subbasin and looks forward to working with groups in the community with similar goals. The

program must, however, be applied equitably to all point and nonpoint sources and have achievable objectives.

7. Myra Erwin, Vice Chair, Rogue Group--Sierra Club, Ashland, Oregon, letter dated June 15, 1989.

Expresses support of DEQ's proposed rules to improve Bear Creek's water quality. The standards for water quality protection have not been achieved despite recognized need for improvement and good work done to date by present contributors to pollution.

The Rogue Group would like to see the standard of 80 $\mu\text{g}/\text{l}$ adopted and commented it is important to exercise diligence in the search for and implementation of ways to decrease pollution from all sources to the lowest possible level. A standard of 100 $\mu\text{g}/\text{l}$ would not allow for reserve capacity to accommodate valid new sources and economic growth might be negatively impacted. Through they recognize it may be difficult to achieve the cleanup goals in five years compared to seven or more, they believe the more imminent the deadline, the more quickly attention will be given to getting the work done.

8. Judson Parsons, District Vice Chairman and Chairman, Bear Creek CRMP Committee, Jackson County Soil and Water Conservation District, letter dated June 15, 1989.

Relates the District has been working with other agencies and individuals since the 1970s to address water quality problems in Bear Creek. They realize Bear Creek needs cleaner water, and that there should be established goals and time frames to achieve the goals. The District states that installation of Best Management Practices will improve the quality of water flowing into the creek, but the DEQ must not establish standards that are not practical, economically feasible, or achievable. The beneficial use standards should not be set so high that they cannot be achieved without putting landowners, operators, business and communities out of operation.

Irrigation water is the "life line" for the valley's agricultural economy. Bear Creek would be dry if water was not stored and returned for irrigation.

Cleaning up Bear Creek to meet standards being proposed should be weighed against the recognized, beneficial uses of the Creek by a cost-benefit ratio. The public needs to know how much it will cost them to meet the standards.

They believe the time frames proposed are too short for all affected parties to develop meaningful program plans and gain needed public input. They also request that the written comment period be extended for seven days after the hearing to allow sufficient time for comments to be written and mailed to Portland.

The Jackson SWCD considers water quality a very high priority and appreciates the opportunity to have input.

9. Mike Osterman, Resident, Medford, Oregon, letter dated June 16, 1989.

He views the setting of a TMDL for Bear Creek to have been needed for a long time and is glad to see progress being made. He is puzzled by reports on the Medford local news that there is no mention of what he considers the best solution for Ashland's problem. Although irrigating the wastewater and providing tertiary treatment have been mentioned on the news, he views extending an interceptor into BCVSA system and treating it at Medford as the best solution. It would benefit Bear Creek by eliminating phosphorus from the Ashland STP, allow treated wastewater to go into the Rogue where higher dilution is available, eliminate duplication of efforts by the two treatment facilities thereby reducing rates for Ashland's citizens and provide electricity from the breakdown of Ashland's solids into methane used at Medford's sludge treatment cogeneration facility. He requests the Department let him know if there is no channel to pass on the solution he mentions.

10. Hank Henry, Chairman; Sue Kupillas, Commissioner; Jeff Golden, Commissioner, Jackson County, Oregon, letter dated June 15, 1989.

States that the County has been active in surface water quality improvement efforts for over 10 years and have supported the RVCOG 208 research and grant funded efforts related to septic tank maintenance, stream bacterial investigations, and passive treatment. The County continued its financial support when grant funds were no longer available. They recognize benefits of continuing this effort by reducing nutrient loads but have several concerns as follows:

- a. The impact of the proposed rules on the County is not clear. The existing data show the nature and extent of the problem but do not demonstrate how much is due to activities in unincorporated areas and are not subject to regulations. Without further data and study, they find it difficult to support or challenge TMDL limits.
- b. The County staff have advised that the proposed criteria do not account for the natural ability of the creek to absorb nutrients (assimilative capacity). They recommend DEQ consider further investigations on this cleansing ability so local discharge limits can be the least restrictive possible.
- c. The five-year time period for compliance is extremely short given the nature of nonpoint sources and difficulty of enforcement. They support a time extension to seven years and that implementation of mandatory control strategies for nonpoint sources not be considered until point source benefits have been accomplished.
- d. The County will continue to participate in the TMDL process, but it is unclear what authority the County has over private land owner activities which contribute to nutrient loadings.

- e. Ordinances concerning irrigation and other practices from rural lands would be difficult to adopt and expensive to properly administer. Counties have no legislative mechanism to impose user fees or recover costs of code administration. Jackson County would not favor such an approach based on the information they have at this time.

Jackson County appreciates the opportunity to comment and would reserve the opportunity to testify in more detail as additional information becomes available.



ENGINEERING DEPARTMENT

CITY OF MEDFORD

TELEPHONE (503) 770-4520

411 WEST 8TH STREET
MEDFORD, OREGON 97501

June 6, 1989

Mr. Robert Baumgartner
Dept. of Environmental Quality
811 S.W. 6Th Ave.
Portland, OR 97204

Subject: Proposed Rule Establishing Instream Phosphorus,
Ammonia, and Oxygen Demand Criteria for Bear Creek

The City of Medford has long recognized the need to improve the water quality of Bear Creek. For well over 15 years we have worked with Rogue Valley Council of Governments (COG) and DEQ to help provide the gains that have been made to date. We started with the 208 Program which provided a good background of data by monitoring the various aspects of Bear Creek's water. We next joined with COG to secure the services of Robert Montgomery Consulting Engineers to provide both an inventory of passive treatment opportunities as well as a list of passive treatment techniques that might be used to enhance Bear Creek. Some of this system has been installed and is operational.

When the 208 Program phased out, COG was able to retain the services of the Water Quality Coordinator through local support. Medford was one of the mainstays of that support and we annually budget \$15-16,000 for this program. I dare say without our involvement, this effort probably could not have been maintained.

In coordination with the COG Water Quality Coordinator, we have over the last 5-7 years located and repaired or eliminated 12-15 sewage flows that were directly entering Bear Creek. This is an ongoing effort. If you will review the attached chart, you can readily see that we have been successful in making some improvement to Bear Creek's water quality.

I should also note that Medford operates the regional sewage treatment plant (discharges to the Rogue River not Bear Creek) with a great deal of care and concern for water quality. We consistently operate 75% below our permitted discharge

allowances and have won recognition in the northwest for our efforts.

With that background and with the pledge of our continued concern for good water quality in our State, the City would like to make the following comments regarding the proposed rule.

1. Bear Creek is a unique stream where summertime flows are largely based on water imported from the Klamath Basin primarily for irrigation needs. Flows are not predictable nor are they based on natural flows. Stream flows are a direct result of mans need to transport water from one irrigation site to the next. This type of situation makes achieving of non-point source levels a very erratic proposition. We also understand that Ashland might arrange a water exchange with the Talent Irrigation District which would provide for cleaner flows during the critical summer months.

Therefore we request that the Environmental Quality Commission adopt alternative #1 listed in the staff report and set summer limits for phosphorus of 100 micrograms per liter for non-point source contributors. This level is the EPA recommended level and if necessary could be lowered at a later date without great impact to non-point source contributors. The 80 µg/l load allocation does not reflect any instream assimilation capacity. This capacity should be recognized and utilized. What capacity Bear Creek has will become better known when point source discharges are brought into compliance.

If the above request is denied then please consider the following amendment to staff's recommended alternative #3: DEQ staff will monitor Bear Creek after point source modeling or compliance has been obtained in order to reevaluate load allocations for non-point source contributors. At that time load allocations will be raised to the least restrictive levels possible which would still achieve water quality goals.

2. Any meaningful gains in the water quality of Bear Creek directly relates to improvements in Ashland's sewage treatment plant. The City of Ashland has prepared a program plan for EQC's review and approval. The time frame layout in that document should be approved for all entities which will receive load allocations for discharge into Bear Creek.

Page 3

The City of Medford appreciates consideration for adopting our proposed changes to the staff recommended rule. We will continue in our efforts to achieve suitable water quality in Bear Creek.

Sincerely,

City of Medford

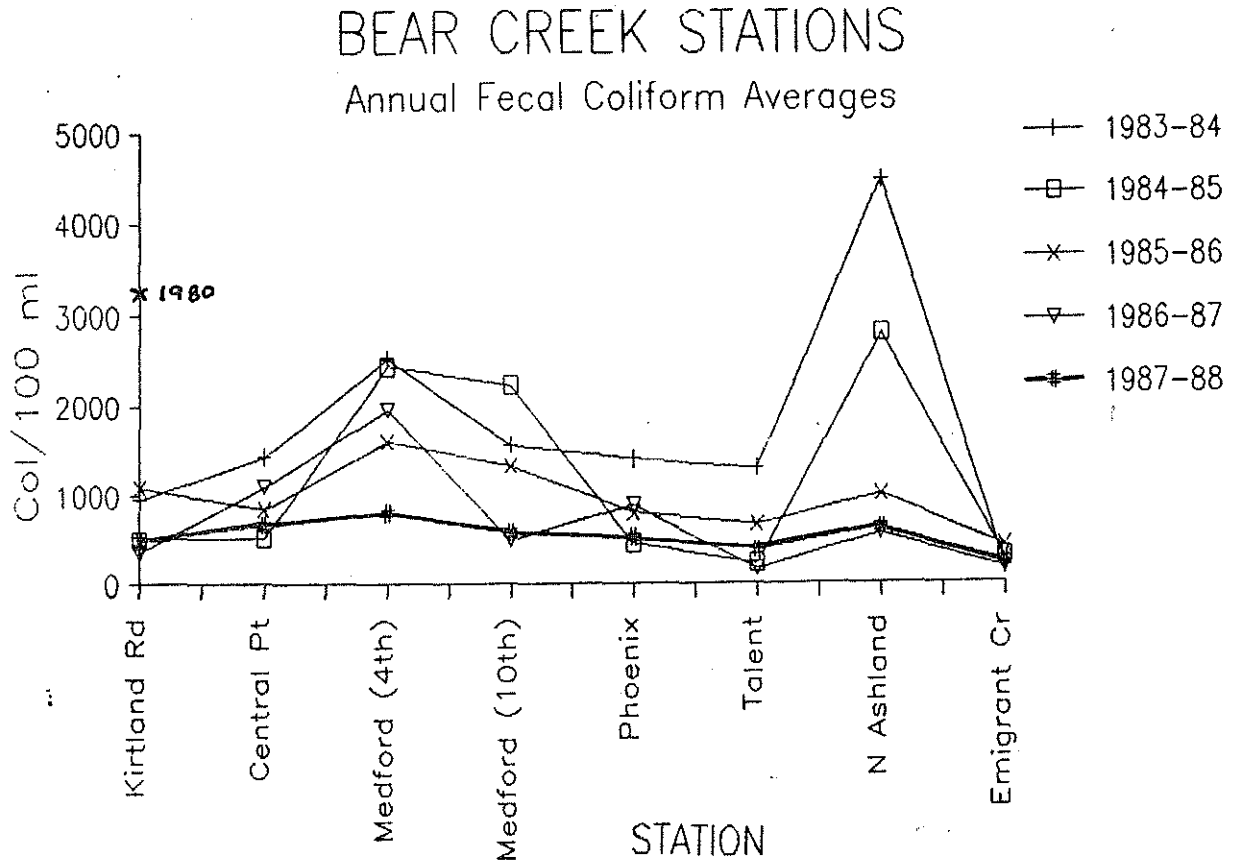

Jerry Lausmann
Mayor

DW:js

Attachment

SUMMARY
RVCOG ANNUAL WATER QUALITY REPORT 1987-88

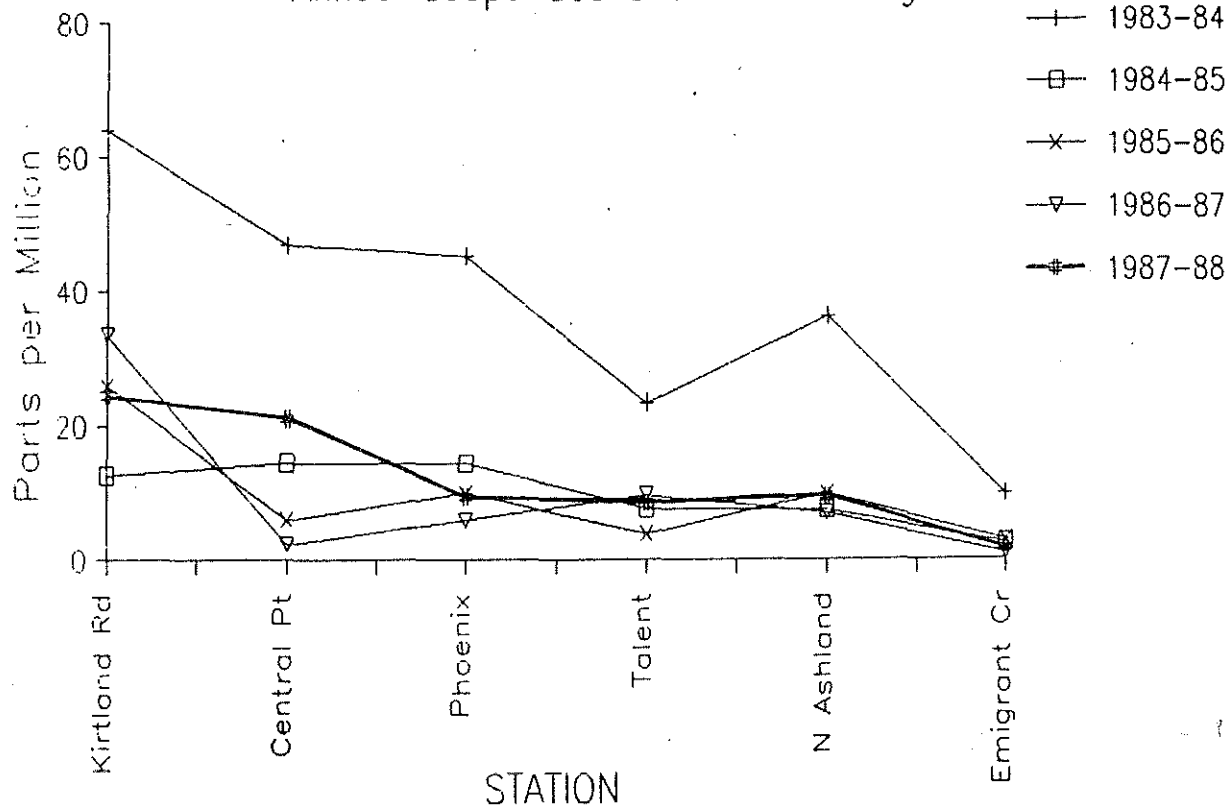
The Rogue Valley Council of Governments coordinates water quality monitoring of selected streams in the Bear Creek Valley. The Annual Report summarizing the monitoring of fecal bacteria, sediment and temperature from April 1987 to March 1988 is now available and is summarized below.



Fecal Coliform levels continue to decrease:

- o The 544 colonies per 100ml overall average recorded for all Bear Creek stations is down 70% from 1983 levels.
- o Fecal bacteria levels for 1987-88 (heavy line) dropped most dramatically in Medford where recent repair of broken sewer lines cut storm drain bacterial contributions by over 60%.
- o Bear Creek tributaries meeting water quality contact activity standards (200 col/100ml) include Emigrant Creek, Ashland Creek, Baby Bear, Griffin, Wagner, Coleman, and Larson Creeks.
- o Jackson and Payne Creeks showed the highest bacteria levels although Payne Creek dropped significantly over last year.
- o North Ashland interchange area remains low due to the success of BCVSA sewer project replacing failing septic tanks starting in 1984.

BEAR CREEK STATIONS
Annual Suspended Sediment Averages



Suspended sediment levels increased slightly over last year but remain low. Bear Creek from Kirtland Road to Phoenix showed the most increase in sediment levels as did the tributaries of Jackson and Payne Creeks.

The factors involved include: relatively mild winter with low rainfall (60% of normal) and no major storms recorded; adoption of "best management practices"; and a general increase in concern for conservation during a dry year.

Conclusion

Bear Creek water quality continues to improve. Intensive use of limited water resources results in both bacteria and sediment levels increasing downstream but still less overall than previous years. Bear Creek water temperature increases downstream and can exceed 20 degrees C. in late summer. This is the upper limit of tolerance for many of the fish populating Bear Creek.

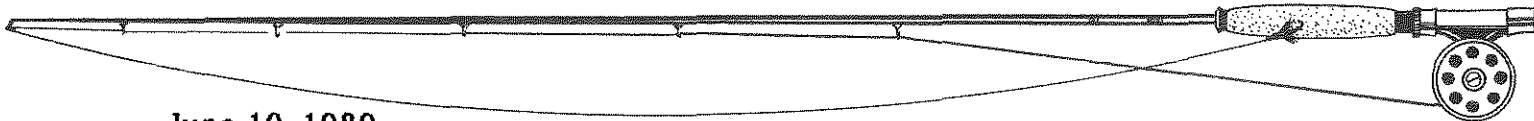
The Annual Report also summarizes the findings of several special projects including Medford urban runoff, Ashland Pond, Bear Creek nutrient and Emigrant Lake turbidity studies.

Progress is being made toward the immediate goal of cleaner water and the long term goal of water contact activities. Bear Creek is "fishable" with steelhead, chinook and coho salmon returning to Bear Creek in greater numbers. Work is now underway in the areas of nutrients the major remaining pollutant.

Particular thanks go to the participating RVCOG agencies and those private organizations helping to fund the water quality program in the Bear Creek Valley.

ROGUE FLYFISHERS

P.O. BOX 4637, MEDFORD, OREGON 97501



June 10, 1989

Mr. Robert Baumgartner
Department of Environmental Quality
811 SW 6th Ave.
Portland OR 97204

RECEIVED
JUN 12 1989

Water Quality Division
Dept. of Environmental Quality

Dear Mr. Baumgartner:

Thank you for the opportunity to comment on the Phosphorus and Oxygen Demand Criteria for Bear Creek. The Rogue Flyfishers through the Oregon Department of Fish and Wildlife STEP program is in the process of establishing anadromous fish spawning beds in Ashland Creek located in the headwaters of Bear Creek. We are extremely interested in Bear Creek for fish passage, spawning and rearing.

We have observed, it will do little good to set limits and stronger discharge standards if the local DEQ office does not enforce the standards as they have failed to do in the past. The beneficial uses for Bear Creek as identified in the Water Quality Control Plan are the same as those in the Rogue River but the discharge standards for Bear Creek are almost non-existent in some cases. The MEDCO discharge serves as an example. Medco is permitted to discharge during high flows in the winter and the only monitoring requirement is a monthly visual for oil and grease. The fact is, they discharge a high strength waste daily no matter what the flow in the winter. In April of 88 we wrote DEQ (enclosed) pointing out the problems with this discharge permit and the lack of enforcement. We were told to wait for your study. From what we have seen, it is an excellent study, but we have reservations about the enforcement.

We do not want this study to become a Basin Water Quality Plan written to conform to the Clean Water Act but do nothing for Bear Creek. We do not want to see the point source dischargers given a long lead time for compliance. The Clean Water legislation was passed in the early 70's; the noncomplying dischargers have had over 15 years to meet the swimmable and fishable water quality objectives. Page 4. of Agenda item: H states at par.2:

Industries with discharge permits for log pond effluent will be required to submit program plans to the Department describing strategies and time frames for achieving the WLAs.

When must the plans be submitted? How much time will they be allowed to achieve the WLAs? What will happen if they are not in compliance by June 30, 1994?

Thank you again for the opportunity to comment on the plan. We have been very pleased with it so far. We look forward to your response.

Very truly yours,

John M. MacDiarmid

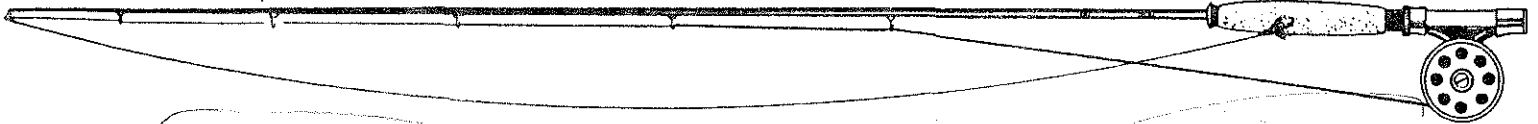
JACKSON COUNTY OREGON JOSEPHINE COUNTY

Open when

Baumgardner

ROGUE FLYFISHERS

P.O. BOX 4637, MEDFORD, OREGON 97501



April 4, 1988

RECEIVED
JUN 12 1989

Water Quality Division
Dept. of Environmental Quality

Mr. Frederic Hansen, Director
Department of Environmental Quality
811 S.W. 6th Avenue
Salem, OR 97204

Re: Medford Corporation NPDES Permit and
Discharge to Bear Creek

Dear Mr. Hansen:

We are writing to express our strong concern about the present discharge to Bear Creek and the lack of limitations and monitoring requirements in the above permit.

On February 22, 1988 while traveling west over Bear Creek on Hwy 62, I observed a foamy discharge of considerable volume to Bear Creek downstream from the bridge. In the following 32 days I passed by the discharge on 28 days and observed the discharge each time. I do not monitor it daily now, but every time I go by I see a discharge. The enclosed pictures were taken on March 30, 1988.

The discharge is sometimes odoriferous, it is foamy and slime has developed on the shore. Several of us took grab samples home and left them undisturbed. In all cases there were floatables and settleables and it took several weeks to settle out. At the fishing club's expense we had a limited analysis of the discharge. The results are enclosed.

The BOD concentration is 73mg/L and settleable solids is 70mg/L. By comparison, the City of Medford, discharging to the Rogue River, can not exceed 30mg/L of BOD or SS in the winter or 20mg/L in the summer.

The March 30 discharge appeared typical in flow and foam to other observations. It filled a 5 gallon pail in 1.5 seconds which, according to our calculations is .4456 cubic feet per second. Assuming the BOD concentration is the same as that analyzed (73mg/L), the daily load is about 185 lbs. of BOD per day. This is a substantial load to such a small stream. Your office has calculated 50 lbs. as the maximum allowable summer (June-October) load for ALL of Bear Creek with a flow of 10-20 cubic feet per second. The maximum allowable BOD load is doubled with a 20-40 cfs flow. While the present stream temperature of 52 degrees is not as warm as the summer flows and can assimilate more BOD, 185 lbs./day from one source is unacceptable.

We obtained a copy of the discharge permit for the discharger from the local D.E.Q. office and were shocked to find out the paucity of requirements. There are no requirements for BOD, settleable solids or hardly anything else for

April 4, 1988
Mr. Frederic Hansen
Page 2

that matter. Monitoring and recording requirements are visual, once a month, for debris, oil and grease and floating solids. As a very minimum the discharger should monitor flow and concentration to determine the actual waste loads discharged to the stream.

As weak as the discharge permit is, there seems to be two violations. The permit on page 1 states the discharge is to occur "...when the amount of precipitation precludes holding without discharge, cold deck sprinkling runoff, and log yard runoff." There has been virtually no rain in the 32 days of observation.

Item 3 of the permit states no discharge is permitted unless a dilution of 50:1 is available in the receiving water. Storage reservoirs have held back everything possible this year and agriculturalist began diverting early for frost protection. Bear Creek is in a near summer flow, the 50:1 dilution is doubtful. Without a flow monitoring requirement for the discharge, this requirement is meaningless.

The situation has given rise to several questions I would appreciate you addressing in your response to this letter. They are:

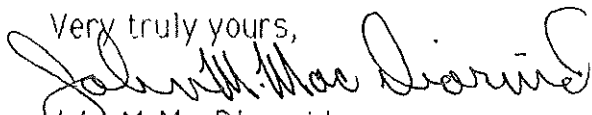
1. The discharger has violated the NPDES permit by discharging when there is no precipitation. What is the full range of punitive actions your office may exercise pursuant to P.L. 92-500 and state statutes?
2. What action will your office take regarding the violation ?
3. Certainly a discharger can not discharge any constituent in any concentration without legal repercussions just because the constituent is not in the discharge permit. Is the discharger of high levels of BOD and SS in violation of P.L. 92-500?
4. If the discharger is not in violation, is your office for allowing the discharge?
5. What is the name and address of an EPA official we can contact if we are not satisfied with your response to the above?

As you are aware a pulp mill is proposed for the Rogue Valley with a possible discharge to the Rogue River. I have told many of my fellow club members that DEQ has a firm track record of protecting the river and if the pulp mill would discharge to the river, the discharge standards would be

April 4, 1988
Mr. Frederic Hansen
Page 3

very restrictive and monitored heavily to ensure compliance. I point to the discharge standards for the Medford WWTP as an example. After witnessing the MEDCO effluent and the non existant discharge standards, I am not so sure. Is the wood products industry a favorite son of Oregon? Should we blindly oppose any industry that will have a discharge? I certainly hope not. We want to be objective in our evaluations of all proposed projects, but we have to believe what we see every time we pass over Bear Creek on Hwy 62.

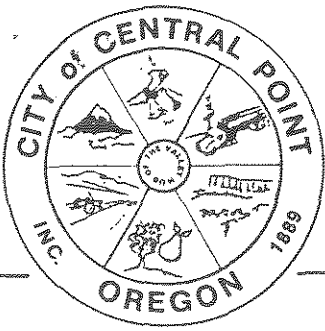
Very truly yours,



John M. MacDiarmid

enc. 2

cc: Several interested parties



THE HEART OF THE
ROGUE RIVER VALLEY
June 12, 1989

RECEIVED
JUN 16 1989

Water Quality Division
Dept. of Environmental Quality

Mr. Robert Baumgartner
Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204

Re: Proposed Rule Establishing Instream Phosphorous
Ammonia, and Oxygen Demand Criteria for Bear Creek

The City of Central Point has been monitoring the proposed rules to be adopted by DEQ for the above criteria. We have worked with Rogue Valley Council of Governments in analyzing the proposed nutrient levels and the effect this type of legislation will have on our community.

Central Point identified in its Capital Improvements Plan, the need to complete a Storm Drainage System/Water Quality Master Plan. However, the City will be unable to complete this task until the later part of 1995. Efforts towards enhancement of Bear Creek have been a group endeavor with the agencies and communities abutting Bear Creek. Because of the cost to develop a master plan, many communities especially the smaller ones are unable to determine the source and quantity of the discharge to Bear Creek.

Therefore, it will be necessary to provide the adequate time frame to develop a data base for Central Point. Once this data base is developed, the City can analyze and identify discharges which could add to the deterioration of the water quality of Bear Creek.

The City of Central Point continues to assist DEQ in whatever capacity we can to enhance the water quality of Bear Creek. From the information provided, we made the following comments:

1. Bear Creek is a stream with very unpredictable flows. Stream flows are contingent upon rainfall, snow melt, and irrigation of land adjacent to Bear Creek. Based on these factors, we believe the Environmental Quality Commission should adopt alternataive #1 and set summer limits for phosphorous of 100 micrograms per liter for non-point source contributors.
2. The recommended 80 micrograms/liter does not reflect any instream assimilation capacity. This capacity should be utilized when determining compliance requirements for Bear Creek.

3. Ashland Sewage Treatment Plant is a major influence to the Water Quality in Bear Creek. Although the City has prepared a program plan for EQC review and approval, the time frame layout for Ashland should be approved for all entities which will receive load allocations for discharge to Bear Creek.

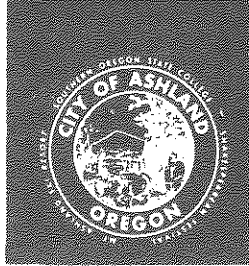
Thank you for your cooperation and for reviewing our comments.

Sincerely,

A handwritten signature in cursive script that reads "Larry R. Blanchard".

Larry R. Blanchard - Public Works Director

LRB/cg
cc: 08-160



City of Ashland

ASHLAND, OREGON
97520

June 15, 1989

Mr. Robert Baumgartner
Department of Environmental Quality
811 SW 6th Avenue
Portland, Oregon 97204

Re: Bear Creek - Proposed Rules -
Nutrients
OAR 340-41-385

Dear Mr. Baumgartner:

The City of Ashland has played an active role in the Rogue Valley to improve water quality in Bear Creek through the Federal 208 Program and support of the Rogue Valley Council of Governments.

As a continuation of that leadership role, the Ashland City Council has adopted a policy of cooperation with DEQ and EQC to reach common goals in an effort to build on what has already been accomplished in improving Bear Creek water quality.

Over the past two years Ashland has worked closely with DEQ in DEQ'S study of the water quality in Bear Creek including independent monitoring of temperature, pH, suspended solids, BOD, residual chlorine, fecal coliform, ammonia, nitrate, nitrite and phosphate in Ashland and Bear Creeks to supplement DEQ's data.

The Ashland Sewage Treatment Plant (ASTP) has consistently treated to levels better than required by our waste discharge permit and we have constantly sought ways of improving the effluent from the ASTP.

The City recognizes the contribution that the ASTP makes to water quality problems associated with Bear Creek and is committed to do whatever is necessary to improve the ASTP and non-point discharges to achieve reasonable water quality standards in Bear Creek.

As evidence of Ashland's commitment to cooperation, the City has prepared and adopted a Program Plan before DEQ or EQC has required the document. The Program Plan outlines Ashland's intended method for selecting an alternative for the ASTP that will achieve DEQ's proposed waste load allocations. The plan discusses a wide range of alternatives, how the City will approach and evaluate each alternative and a reasonable schedule for implementing improvements at the ASTP. We are including a copy of the Ashland Program Plan for incorporation into the hearing record.

Mr. Robert Baumgartner
June 15, 1989
Page Two

I would like to highlight some of Ashland's comments and concerns in reference to the proposed rules. More detail of each item is in the Background Information portion of this written testimony.

- * Bear Creek is not a natural stream. Summer month flows are about 85% imported water used primarily for irrigation.
- * The EPA recommended maximum phosphorus limit is 0.10 milligrams per liter.
- * The City urges the DEQ and EQC to adopt reasonable rules for limits on nutrients based on history and current data on Bear Creek.
- * The City is requesting November 31, 1996 as a compliance date based on the attached Program Plan project schedule.
- * The City is requesting the low flow season be set from approximately June 1 to November 30.
- * The City is requesting that DEQ be required to consider the assimilative capacity of Bear Creek in establishing total maximum daily loads.

If all rivers, streams and creeks were homogeneous and all solutions to the reduction of nutrients were identical, the same criteria and completion time could apply to all bodies of water under consideration for nutrient control. However, Bear Creek is not the Tualatin River and should be evaluated on Bear Creek's uniqueness as noted in this document and as provided by other concerned people and agencies at this hearing.

The City wishes to continue a cooperative role with DEQ and EQC while seeking an equitable solution that meets the spirit and intent of the federal law and court decree.

Thank you for the opportunity to express our thoughts and concerns and for your time involved in assisting the Rogue Valley in understanding the process and highly technical nature of the evaluation that DEQ has made for the proposed rule change.

Sincerely yours,



Steven M. Hall, P.E.
Public Works Director

Mr. Robert Baumgartner
June 15, 1989
Page Three

cc: Brian Almquist, City Administrator
Mayor and City Council
Dennis Barnts, Water Quality Superintendent
Eric Dittmer, RVCOG
Don Walker, Medford Public Works Director
Larry Blanchard, Central Point Public Works Director
Chuck Root, Bear Creek Valley Sanitary Authority Manager

encl: Background Information
Ashland Program Plan
USGS Open-File Report 80-158
pps. 32-33 Questions and Answers
pps. 37-39 Background

CITY OF ASHLAND
DEPARTMENT OF PUBLIC WORKS
JUNE 15, 1989

BACKGROUND INFORMATION

BEAR CREEK IS NOT A NATURAL STREAM

A report issued by the U.S. Geological Survey (Open-file Report 80-158) titled "Water Quality of Bear Creek Basin, Jackson County, Oregon", dated 1980 and authored by Loren A. Wittenberg and Stuart W. McKenzie, was an exhaustive study of Bear Creek, particularly in relation to aquatic life.

Mr. Wittneberg is a member of the Rogue Valley Council of Governments Water Quality Advisory Committee (WQAC). The WQAC is overseeing the nutrient study on Bear Creek.

On pages 37 and 38 of that document are these statements:

"To ensure a supply of water for irrigation, approximately 80,000 acre-feet of water is diverted annually from the Klamath Basin into Bear Creek Basin."

"These three districts (Talent, Medford and Rogue River Valley Districts) use about 94,000 acre-feet of water annually."

From these quotes, it is readily apparent that about 85% of the summer flow in Bear Creek is imported and not a "natural" part of the Bear Creek drainage basin.

As an example, the Talent Irrigation District (TID) diverts about two-thirds of the total flow from Bear Creek at Oak Street during the irrigation season. This diversion structure is above Ashland Creek and the Ashland Sewage Treatment Plant's point of discharge.

EPA RECOMMENDED PHOSPHATE LIMITS

In the April 14, 1989 DEQ staff report to the EQC, page 5, ALTERNATIVES CONSIDERED BY THE DEPARTMENT states in part (emphasis added):

"Summer limits of 100 micrograms per liter (ug/l) total phosphorous ... The phosphorous limit is the Environmental Protection Agency's (EPA) guideline for the prevention of nuisance algal growths. This limit is above background and may not achieve the pH criteria at low flow conditions."

DEQ staff is proposing phosphorous limits of 80 micrograms per liter based only on the dilution rule. See also the following discussion on assimilative capacity of Bear Creek.

Realistically, the City of Ashland is facing a "no discharge" situation for the limits proposed in the rule from April 1 through November 30 even if the phosphorous limit was established at 100 ug/l. The City's concern is the practical ability to deal with non-point sources surrounding Bear Creek.

PROGRAM COMPLETION DATE

In the proposed rule change, a date of December 31, 1994 is included as the deadline for compliance with new proposed in-stream water quality standards. After careful evaluation of the specific steps required to comply with the new water quality requirements Ashland has estimated a completion date of November 23, 1996. The City is petitioning DEQ and EQC to adopt that date. Our detailed schedule and supporting discussion are included in the attached Ashland Program Plan.

Since DEQ's 1994 deadline was established prior to submission of the Program Plan, Ashland believes the date was set in the absence of any detailed evaluation of the specific requirements for Ashland on this particular project. Through discussions with DEQ staff we have come to believe that the date was set in the interest of being consistent with actions on other water quality limited streams, specifically, the five year requirement on the Tualatin River, and that the five year period represents DEQ's estimate of the time required to design and construct a new wastewater treatment plant.

To be fair to all communities on water quality limited streams, compliance deadlines should be established which reflect the specific situation of each community. Bear Creek is not the Tualatin River. We believe that there are unique characteristics of Ashland's situation which must be factored into the project schedule. The most significant of these include the following:

- * There is a significant lack of both hydrologic and water quality data on Bear Creek. As an example, the only historical data available on flows in Bear Creek are collected in Medford. A few flow measurements were taken by DEQ during their recent sampling but these were taken during a drought year. Flows at Ashland are impacted by irrigation withdrawals and returns, releases from Emigrant Lake, as well as natural hydrological patterns. At least a year of data must be accumulated in order to develop a data base for estimating the relationship between flows at Ashland and statistical flow variations as measured historically in Bear Creek at Medford. The understanding of this relationship is absolutely essential in order to develop storage and land area requirements for any irrigation alternative. Other field studies and data collection which would be undertaken during the first year are described in the program plan.

- * Due to the major impact the new waste load allocations will have on treatment, a broad range of treatment and disposal options must be evaluated. Two of the alternatives, discharge to the Talent Irrigation District canals and conveyance and treatment at the Medford plant, require in-depth investigation of potential impacts and delicate and lengthy negotiations of new and complex institutional agreements. The Medford alternative would require careful evaluation of the future limits on that plant to assure Medford that the proposal would not simply transfer stringent treatment requirements from one location to another after abandoning valuable treatment capacity.
- * In comparison to major urban sanitary authorities, the City of Ashland is small (population 16,310) with limited resources. The City cannot marshal resources necessary to fast track a project of this magnitude.

LOW FLOW TIME LIMITS

The dates indicated in the proposed language for low-flow seasons are "Approximately April 1 through November 30." Ashland petitions for the indicated dates to be "Approximately June 1 through November 30" with a commensurate change made in high flow season dates. An inspection of statistical flow data in Bear Creek clearly shows that historically, high mean flows are maintained through May. Mean flows in April and May are respectively six and four times greater than mean flows in July, August, September and October. June and November flows are only twice as high as the four low flow months and should be included in the low flow period.

Ashland recognizes that low flows may extend into traditionally high-flow periods and visa versa. We also recognize that the proposed language allows for setting dates based on physical conditions in Bear Creek. Nonetheless, Ashland feels it is important in establishing this critical precedent to set "Approximate" dates which accurately reflect flows as these dates will undoubtedly be benchmarks for future permit development.

ASSIMILATIVE CAPACITY OF BEAR CREEK

The City of Ashland is requesting that the natural assimilative capacity of Bear Creek be a factor in establishing the limits for nutrients. Using strictly the dilution rule as proposed in the rule makes the projections for limits even more conservative.

Ashland feels the flexibility to limit waste loads based on in-stream conditions is essential. Typically, either a spring or fall of a given year is dry, but rarely are flows low in both seasons of a given year. The statistical relationship of seasonal flows will be crucial in setting design criteria and determining whether storage and irrigation is a viable alternative.

Although not directly addressed in the proposed language, it has been indicated by DEQ that they intend to establish waste load allocations for the Ashland Sewage Treatment Plant based on the existing dilution rule in the basin wide design criteria. The DEQ has indicated that they do not view the establishment of a TMDL as superceding the dilution rule. We petition you to reverse this position.

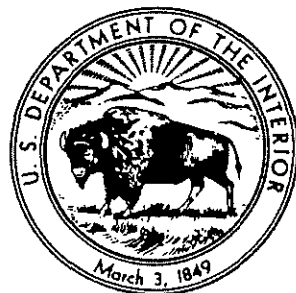
It is clear that the dilution rule was established to limit BOD inputs to low levels below which they will clearly be assimilated into the stream without adverse impact. It is also clear that this value is a rule-of-thumb, set conservatively low to protect streams with the least assimilative capacity. It is indisputable that with other characteristics being equal, a fast moving stream with high re-aeration can assimilate more BOD than a slow moving stream of the same flow with low aeration. The TMDL process recognizes this as loads are based on the specific characteristics of the stream. The dilution rule does not recognize this as it accounts only for flow. Both rules are attempting to regulate the same thing. In the case of Bear Creek, the dilution rule would unnecessarily require treatment to levels nearly half of what the would be when considering the streams re-aeration and assimilative capacity. It is understandable that, in the absence of detailed data required to set TMDL's and determine assimilative capacity, the dilution rule is a reasonable regulatory tool. But, when data is available and the dilution rule is more limiting than the TMDL, the dilution rule places an unnecessary and costly burden on the community. This burden cannot be justified in terms of water quality improvement. For Ashland, use of the dilution rule for establishing waste loads will severely limit available alternatives.

Water Quality of Bear Creek Basin, Jackson County, Oregon

By Loren A. Wittenberg and Stuart W. McKenzie

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations
Open-File Report 80-158

Prepared in cooperation with the
Rogue Valley Council of Governments and the
Oregon Department of Environmental Quality



1980

The following questions posed by La Riviere, Quan, Westgarth, and Culver (1977, p. 22) are answered by the authors of this report.

1. What are the sources of contamination by fecal bacteria and how can the sources of bacteria be controlled?

Sources of fecal coliform bacteria include combined sewers; irrigation-return flows, especially from pastures; and overland flow. Reduction of combined-sewer and irrigation-return flows could reduce the concentration of fecal coliform bacteria.

2. What benefits can be derived from augmenting Bear Creek flows?

Depending on the source of water and its characteristics, increased flows in Bear Creek could (a) increase DO concentrations; (b) aid in holding pH below 8.5; (c) decrease turbidity; and (d) decrease concentrations of fecal coliform, fecal streptococci, ammonia, nitrite, nitrate, orthophosphate, and suspended sediment in Bear Creek. Increased flows could also improve the quality of water available from canals for irrigation.

3. What are the man-related sources of suspended sediment in the basin?

Suspended sediment results from overland flow of surface water; point sources, such as combined sewers and industrial outfalls; and the sluicing of Reeder Reservoir. Overland flow includes storm-water runoff as well as irrigation-return flow. Any land-use activity that leaves the soil exposed to erosion contributes to increased concentrations of suspended sediment in the streams. These activities include (a) construction of homes, office buildings, and highways; (b) agricultural practices, such as row-crop cultivation, plowing, and disking; and (c) timber harvesting. All these practices either disturb existing vegetative growth or leave the soil devoid of vegetation.

4. What methods can be used to minimize the suspended-sediment problem in the basin?

Suspended-sediment problems can be minimized by controlling or eliminating erosion. This is accomplished by (a) reducing overland flow, (b) minimizing the creation of erosive areas, and (c) intercepting suspended sediment before it reaches the streams. Some irrigation methods, such as sprinkler and drip, help to reduce overland flow. The use of settling ponds and (or) grassed waterways for transporting return flows will remove some suspended sediment from the water.

5. What Best Management Practices will minimize the turbidity problems related to irrigation water?

Generally, reduction of suspended sediment will also help to reduce turbidity. Pastures are especially effective in removing turbidity-causing material.

6. What are the impacts of ammonia concentrations from sewage-treatment-plant effluent on fish and on aquatic insects?

No direct impact of ammonia on aquatic insects was noted. Unionized ammonia exceeded reference levels in Bear Creek several times, as did nitrite from oxidation of ammonia.

7. What is the impact of the nutrients from sewage-treatment-plant effluent on primary productivity?

Sewage-treatment-plant effluent is the primary source of nitrogen and orthophosphate to Bear Creek. These nutrients, along with the particle size of the streambed material, are believed to control biological productivity.

8. To what extent do the nutrients, through biological productivity, influence the diel variations in DO and pH?

Larger diel DO and pH fluctuations appear to be associated with higher concentrations of nitrate. This does not, however, apply to sampling sites immediately below Ashland Creek (sites 102 and 108). These two sites appear to have more nitrogen available than needed, but they lack an adequate in-stream substrate to allow the growth of periphyton.

9. Do the diel variations of DO and pH have a measurable effect on fish or aquatic organisms?

No measurable effect on the aquatic organisms was detected in the data as a result of diel fluctuations in DO and pH. The methods of in situ measurement, however, are not necessarily sensitive enough to detect all effects on aquatic organisms.

10. Does the rise in temperature of irrigation water following diversion cause a significant problem for aquatic life?

No measurable effect on the aquatic organisms was detected in the data as a result of high temperatures in Bear Creek. The methods of in situ measurement, however, are not necessarily sensitive enough to detect all effects on aquatic organisms.

BACKGROUND

Basin Description

Bear Creek basin, about 30 mi in length, is one of many subbasins in the Rogue River drainage (fig. 12). Bear Creek flows into the Rogue River 126.8 river miles upstream from the mouth of the Rogue. The 362-square-mile drainage basin of Bear Creek has narrow mountain canyons at the upper end and is situated at the junction of the Cascade Range to the east and the Siskiyou Mountains to the southwest. The basin widens to an 8-mile delta near the confluence of Bear Creek and the Rogue River. Bear Creek begins at the confluence of Emigrant and Neil Creeks, near the city of Ashland.

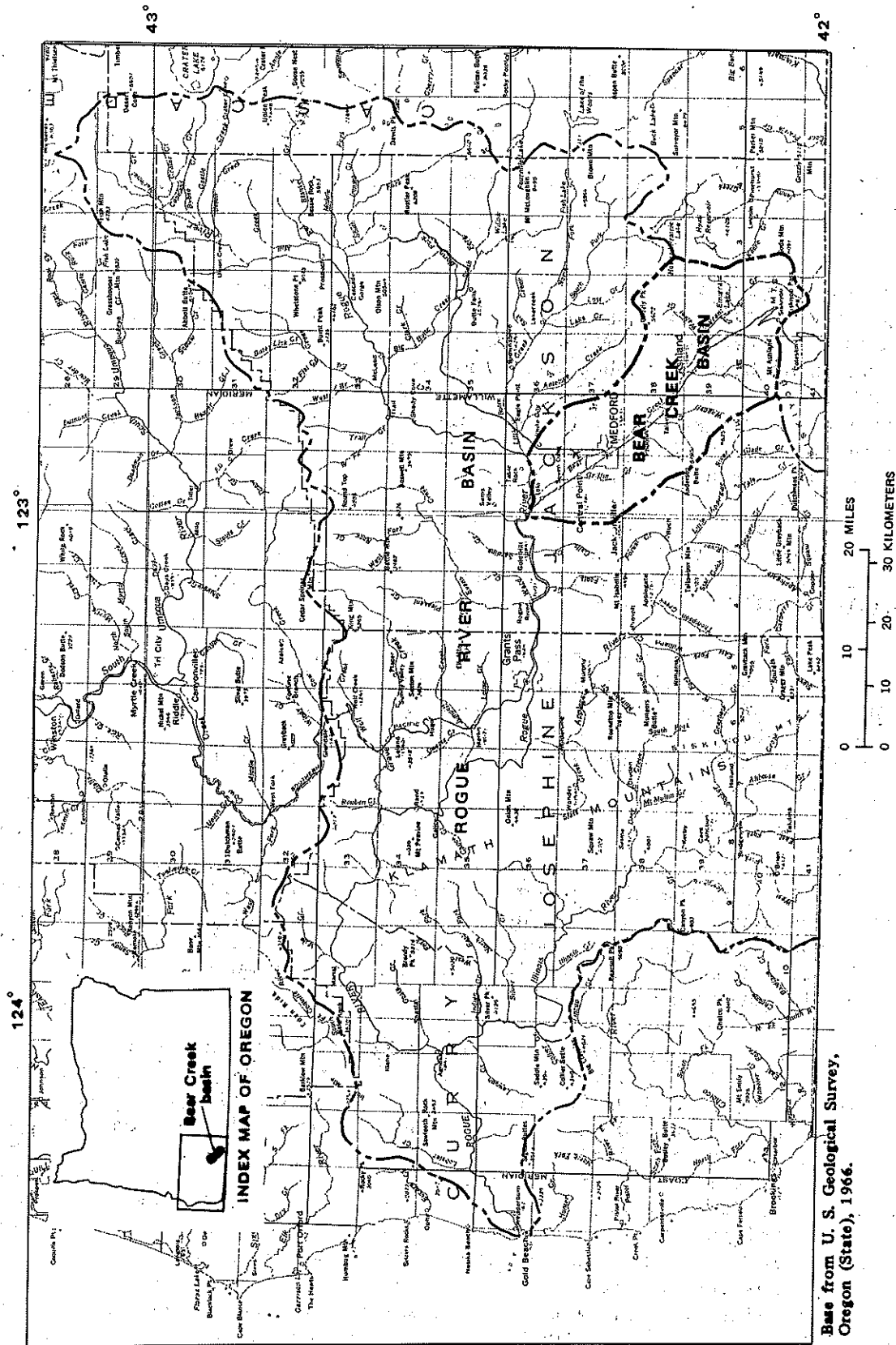
The black soils of the area resulted from the fluvial erosion and deposition processes that formed the alluvial valley plain (Latham, 1963). Soils in the study area vary from montmorillonitic clay to granitic sandy material (Pugsley, 1972).

The climate of the basin is moderate, with moist, cool winters and, except for occasional thunderstorms, warm, dry summers. The Siskiyou Mountains cast a rain shadow over the basin. Average annual precipitation at Medford is about 18 in.; in the higher mountains it is 40 in. or more. Most of the precipitation occurs in the fall and winter months.

Hydrologic System

Irrigation is a requirement for agriculture in the Bear Creek basin and provides much of the streamflow in late summer and early fall as a result of stored reservoir water. Current private water rights in Bear Creek basin total about 120 ft³/s--87.2 percent for irrigation of 8,200 acres, 6.8 percent for power, 2.6 percent for mining, 2.4 percent for municipal uses, and 1 percent for other uses.

To ensure a supply of water for irrigation, approximately 80,000 acre-ft of water is diverted annually from the Klamath Basin into Bear Creek basin. Fourmile Lake, Howard Prairie Lake, and Hyatt Reservoir store water which is delivered to the Bear Creek basin during the irrigation season via a series of canals and natural drainageways (see fig. 1). This water enters the basin from two points: (1) Medford Irrigation District (MID) Canal via Bradshaw Drop and (2) Green Springs diversion from Howard Prairie Reservoir to Emigrant Creek and Emigrant Reservoir above Ashland. Water is also diverted from the Little Applegate Basin via McDonald Canal to Wagner Creek and Fredrick Lateral. Table 4 shows the capacity and date of completion of the reservoirs and the irrigation districts using the stored water. The three districts serve more than 7,400 farms, with 34,500 acres under irrigation (less than 5 acres per



Base from U. S. Geological Survey, Oregon (State), 1966.

Figure 12.—Location of study area in Rogue River basin, Oregon.

average farm). These three districts use about 94,000 acre-ft of water annually. The large number of farm units and their small size make the distribution system for the irrigation districts complex.

Table 4.--Source of stored water for irrigation districts

[From Rogue Valley Council of Governments (1976) and Don Walker, Bureau of Reclamation (oral commun., March 1978)]

Reservoir	Date completed	Approximate usable capacity at maximum pool (acre-feet)	Irrigation district served
Fourmile Lake	1923	15,650	Rogue River Valley and Medford.
Fish Lake	1924	8,020	Do.
Agate	1966	4,670	Do.
Howard Prairie	1958	60,000	Talent.
Hyatt	1922	16,180	Do.
Emigrant	1924	6,000	Do.
Emigrant, enlarged	1961	39,000	Do.

Past Investigations

In an effort to determine water-quality conditions and problems, water-quality samples have been collected since 1960 from Bear Creek and many of its tributaries. In 1960 and 1962, the Oregon State Sanitary Authority measured Bear Creek water quality. Although this study was not intensive, it indicated that the quality of water was unsuitable for most of the desired uses in Bear Creek. In a report by the U.S. Public Health Service (1965), it was concluded that, because of increases in population and industrialization, Bear Creek would need more flow to prevent further degradation of its water quality.

The U.S. Bureau of Reclamation (1966) published a report proposing to enhance flows in Bear Creek during periods of low flow and to provide additional water for irrigation districts during the irrigation season. The proposal included the construction of two dams--one at Lost Creek on the Rogue River and the other on Elk Creek. Water was to be diverted from these impoundments to enhance the quality of water in Bear Creek.

A report by the Soil Conservation Service (Latham, 1963) indicated a need for correction of poor drainage caused by the clay soils. The report recommended an improvement in irrigation techniques and mentioned the possibility of contamination of shallow wells as urbanization continued in the valley (Latham, 1963).

A study of the biological, chemical, and physical characteristics of Bear Creek in the 1968-69 period by Linn (no date) showed the following:

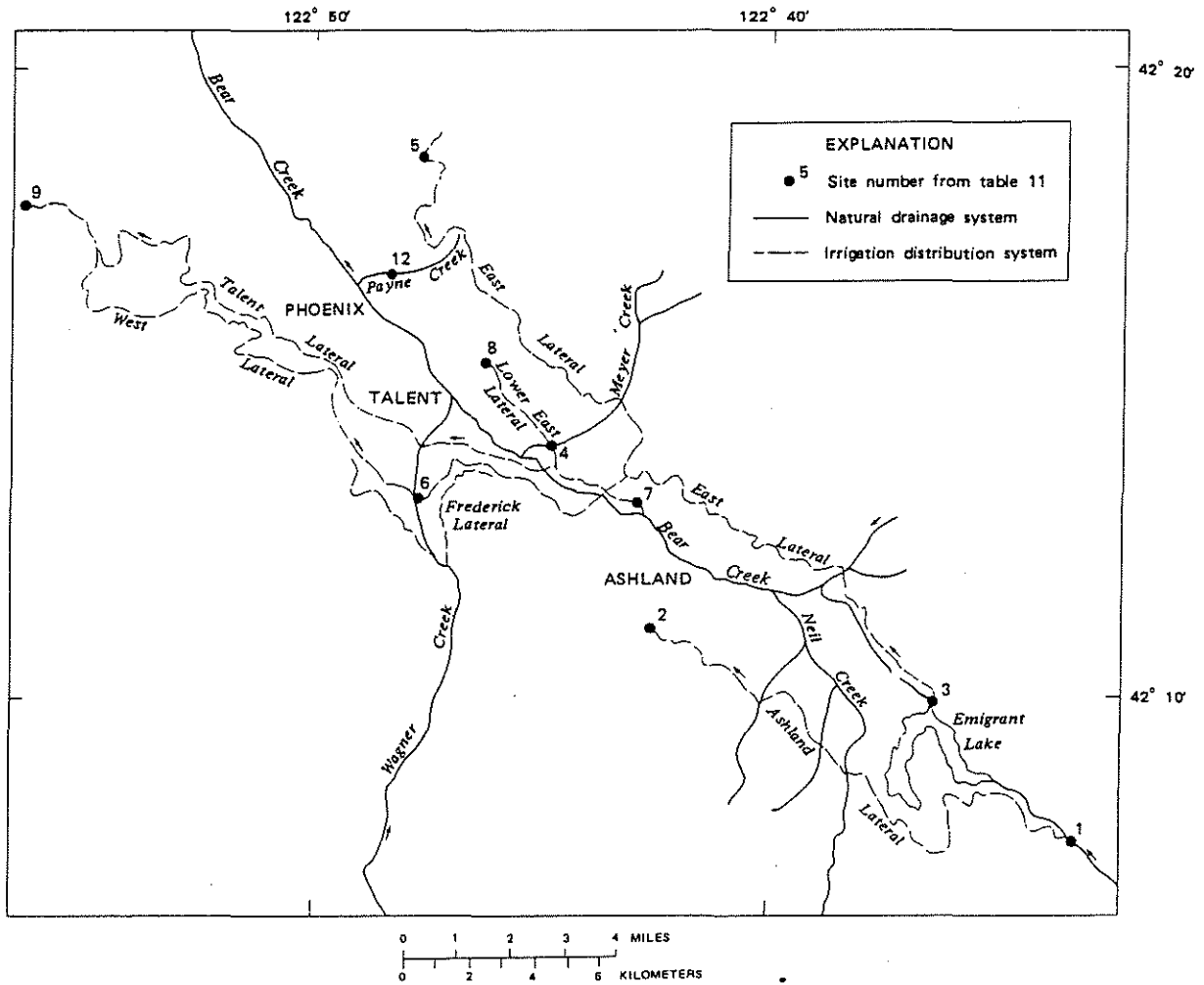


Figure 14.—Talent Irrigation District.

Table 12.—Quality characteristics of water diverted for irrigation and water leaving the Bear Creek basin, May-September 1976
 [Water-quality concentrations are discharge-weighted means]

No.	Site Name	Dis-charge (ft ³ /s)	Milligrams per liter				Fecal coliform Colonies/100 mL	Fecal streptococci
			Suspended sediment	Dissolved solids	Dissolved nitrate as N	Ortho-phosphate as P		
Irrigation diversions								
1	Ashland Lateral near Ashland	26	12	54	0.08	0.01	10	75
3	East Lateral at Emigrant Gap near Ashland	115	11	84	.09	.02	8	35
7	Talent Lateral near Ashland	28	18	118	.08	.05	900	1,700
10	Medford Irrigation District Canal at Bradshaw Drop	41	30	68	.06	.05	810	740
18	Rogue River Valley Canal at Bradshaw Drop near Brownsboro	15	32	69	.06	.07	700	1,100
19	Dry Creek downstream from Agate Reservoir	22	9.8	87	.05	.04	20	42
Total diversions		247						
	Concentration (mg/L)	--	16	81	.08	.03	290	410
	Load (tons/d)	--	11	54	.05	.02	1/1.8x10 ¹²	1/2.5x10 ¹²
Water leaving Bear Creek basin								
106	Bear Creek at Kirtland Road	150	--	--	--	--	--	--
	Concentration	--	39	144	.66	.26	1,200	2,200
	Load (tons/d)	--	16	58	.27	.11	1/4.40x10 ¹²	1/8.0x10 ¹²

1/Colonies per day.

Presented to:

DEPARTMENT OF ENVIRONMENTAL QUALITY

June 15, 1989

CITY OF ASHLAND

DRAFT PROGRAM PLAN
for
IMPROVEMENTS TO THE
WASTEWATER TREATMENT PLANT
DISCHARGE INTO BEAR CREEK

APRIL 1, 1989

BROWN AND CALDWELL
CONSULTING ENGINEERS **BC**

Adopted by Ashland City Council April 4, 1989

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CITY OF ASHLAND

PROGRAM PLAN FOR IMPROVEMENTS TO THE WASTEWATER TREATMENT PLANT DISCHARGE INTO BEAR CREEK

For the last two years, the Oregon Department of Environmental Quality (DEQ) has conducted an intensive sampling program and study of Bear Creek. It is one of ten, top-priority streams in the state deemed "water quality limited." These are streams that do not meet state water quality standards, and that could not meet these standards with conventional secondary waste treatment.

The Federal Clean Water Act, Section 303, requires creation of total maximum daily loads (TMDLs) for these streams and the DEQ has taken on the responsibility of establishing them. A TMDL is the greatest amount of a given pollutant which can be naturally assimilated by a stream without violating water quality standards. To establish TMDLs, the DEQ uses data gathered during their intensive field investigations and laboratory experiments.

A computer model is typically used to evaluate data and determine a stream's assimilative capacity. Once established, TMDLs are used to set waste load allocations (WLAs) and load allocations (LAs). The WLA is that portion of the TMDL allocated to a point source such as a wastewater treatment plant (WWTP) and the LA is allocated to background and nonpoint sources such as storm runoff.

PROBLEM ASSESSMENT

In Bear Creek, the DEQ found that dissolved oxygen (DO) and pH water quality standards are not being met. Excessive biochemical oxygen demand (BOD) and algal growth cause these problems. DEQ data show that phosphorous is the principal nutrient stimulating the growth of nuisance algae. In addition, ammonia-nitrogen is of concern to DEQ because at high concentrations it can be toxic to fish. As a result, the DEQ proposed TMDLs and WLAs for BOD, phosphorous, and ammonia-nitrogen.

WLAs proposed for the wastewater treatment plant are stringent enough to require extensive improvements in Ashland's treatment and disposal systems. These improvements will be mandated by the Environmental Quality Commission (EQC), and must be completed within a defined time frame, or compliance schedule. Obviously, a great deal of time for investigation, planning, and implementation will be needed for such a task.

The City of Ashland is committed to doing whatever is necessary to improve its wastewater treatment plant to achieve reasonable water quality standards in Bear Creek. It is the purpose of this program plan to outline the city's intended method for selecting an alternative for their plant which will achieve the intended water quality goals. The plan describes several options available to the city and lists possible criteria and techniques that will be used to evaluate them. Finally, this plan proposes a compliance schedule that will allow the city to complete this project including facility construction within a reasonable time.

Background

To understand the purpose of this program plan, a clear picture of the project's major components is essential. The following sections give a brief history and description of its two major components: Bear Creek and Ashland's wastewater treatment plant.

Bear Creek. Bear Creek has long been an important source of water for the residents of Jackson County. The Rogue River Valley Irrigation District first provided water from Bear Creek to customers in the Agate Desert in 1902. Increases in population and irrigation began to stress Bear Creek Valley's water supplies about 1915 and the creek began to run dry late in the summers.

With assistance from the Bureau of Reclamation, local irrigation districts constructed Hyatt and Howard Prairie Reservoirs around 1925. These were the first major water storage facilities in Jackson County. Canals carry their water to Emigrant Lake and into Bear Creek Valley. Today, the valley imports over half of its water from Klamath Basin.

The upper part of Bear Creek's drainage basin has narrow, mountain canyons. It is situated at the junction of the Cascade Range to the east and the Siskiyou Mountains to the southwest. Bear Creek begins where Emigrant and Neil Creeks join near Ashland, and flows about 30 miles before entering the Rogue River. Bear Creek's drainage basin encompasses about 360 square miles.

Irrigation from Bear Creek supports the high agricultural productivity of Jackson County. Bear Creek also supports several important species of fish including chinook and coho salmon and steelhead. Bear Creek is not a significant trout fishery with most trout being out competed by the salmonid species. Bear Creek's greenway provides recreational opportunities for nearby residents. In addition, the City of Talent uses treated water from Bear Creek for domestic supply.

Bear Creek's flow statistics recorded by the United States Geologic Survey (USGS) recording station in Medford are shown in Table 1. This data was collected from 1921 to 1981. Bear Creek's flow is partly controlled by releases from Emigrant Lake, and partly by numerous irrigation diversions and return flows during the summer. Because of this irrigation, summer flows measured in Medford may not correspond to flows in other parts of the creek. There are currently no flow gauging stations in Bear Creek near Ashland. As Table 1 shows, high flows typically occur in the wet season between December and May, then drop off substantially during the summer. It is important to note that this table includes data prior to construction of upstream dams and that irrigation practices have varied over the years. Currently during the summer the Talent Irrigation District (TID) withdraws about 45 cubic feet per second (cfs) of irrigation water from Bear Creek and the Medford Irrigation District (MID) withdraws about 25 cfs, both above the Medford gauging station. The Rogue River Valley Irrigation District withdraws about 45 cfs just below the gauging station.

Table 1. Monthly and Annual Mean Discharge
in Bear Creek at Medford

Month	Minimum, cfs	Maximum, cfs	Mean, cfs	Standard deviation, cfs	Coefficient of variation	Percent of annual runoff
October	4.7	216	33	32	.98	2.4
November	8.2	246	59	50	.85	4.3
December	17.0	1,137	147	195	1.33	10.7
January	13.0	1,080	221	238	1.08	16.0
February	12.0	873	223	194	.87	16.2
March	14.0	787	202	163	.81	14.7
April	4.9	686	197	133	.68	14.3
May	1.5	391	134	99	.74	9.7
June	2.1	232	73	55	.75	5.3
July	.5	95	29	23	.78	2.1
August	.4	115	29	27	.93	2.1
September	.7	92	31	27	.85	2.3
Average annual	8.4	304	114	75	.66	100.0

Note: Data accumulated by USGS from 1921 through 1981. Minimum and maximum values are extreme for entire period of record.

In 1987 and 1988, record low rainfalls depleted flows in Bear Creek well below average. Average monthly flows exceeded 60 cubic feet per second (cfs) only once in 1988. Only three times in 30 years of record was an annual rainfall recorded lower than the 1988 total of 13.7 inches and 1988 was the fifth consecutive year of below-average rainfall. In 1988, the DEQ measured flows lower than 10 cfs in Bear Creek above Ashland. These measurements were made in the fall after irrigation releases from Emigrant Lake were stopped but before winter rains began. In order to design treatment plant improvements that achieve the desired water quality objectives, Bear Creek's statistical flow patterns at Ashland will need to be thoroughly understood.

Ashland's Wastewater Treatment Plant. Ashland's sewer system was first constructed in 1906. In 1934, the city completed the first phase of the wastewater treatment plant. It had one trickling filter, an Imhoff tank, and a series of sludge drying beds. The plant discharges treated effluent into Ashland Creek about 1/2 mile above its confluence with Bear Creek. The treatment plant was upgraded over the years; its last major expansion was in 1975. The plant now has primary clarifiers, activated sludge, secondary treatment, aerobic and anaerobic sludge digestion, and effluent chlorination.

The plant is well maintained and does not exceed its current seasonal BOD and suspended solids discharge limits of 30 milligrams per liter (mg/l) in winter and 20 mg/l in summer. The plant was designed to meet these criteria with an average dry-weather flow of 3.1 million gallons per day (mgd) and a BOD influent load of 4,700 pounds per day (ppd). The plant can handle peak wet-weather flows of 9.3 mgd. During the summer, the plant discharges 150 to 300 ppd of BOD, 75 to 150 ppd of phosphorous, and 50 to 250 ppd of ammonia-nitrogen.

Water Quality Issues and Waste Load Allocations

Bear Creek's principal water quality characteristics driving the TMDL issue is dissolved oxygen (DO). A stringent, 95-percent DO saturation requirement was established to protect the spawning, incubation, hatching, and fry stages of salmon and steelhead growth. No other beneficial uses require a DO criterion so stringent.

Violations of this standard are common in Bear Creek during summer low-flow periods. These violations are caused primarily by biological oxidation of carbonaceous and nitrogenous BOD, and by algal respiration at night when algal photosynthetic activity stops replenishing the stream's oxygen. The DEQ found the lowest DO concentration at the Valley View Road sampling site just below Ashland's treatment plant. The DEQ's study confirms the findings of previous studies: during low-flow conditions, Ashland's plant contributes over 80 percent of the BOD and phosphorous found at

the point where plant effluent enters Bear Creek. Phosphorous is significant because it stimulates the growth of algae, and respiring algae consume the stream's DO.

BOD Waste Load Allocations. Proposed waste load allocations for Ashland's treatment plant are based on the Oregon Administrative Rules' Minimum Design Criteria for Treatment for Control of Wastes, OAR 340-41-375(1) (c). These rules define the amount of dilution necessary to assimilate oxygen demand from a point source. The rule states that the effluent's oxygen demand concentration divided by the dilution ratio shall not be greater than one. Total oxygen demand includes both carbonaceous and nitrogenous demands. Tables 2 and 3 present the DEQ's proposed, flow-based, waste load allocations for Ashland's plant.

Table 2. WLA for Total BOD from the Ashland Plant During the Irrigation Season and Low-Flow Conditions in Bear Creek

Stream flow	Waste load allocation for total oxygen demand from the Ashland plant, pounds per day	
	Based on dilution criteria	Based on Bear Creek reaeration capacity
Below 10 cfs (5 cfs)	27	39
10 to 30 cfs	54	90
30 to 60 cfs	160	294
Greater than 60 cfs	320	599

Table 3. WLA for Total BOD from the Ashland Plant for Wet Weather Conditions in Bear Creek

Stream flow	Total oxygen demand from the Ashland plant, pounds per day
Below 70 cfs (30 cfs)	160
70 to 150 cfs	375
150 to 300 cfs	800
Greater than 300 cfs	1,610

The WLAs in the first column of Table 2 and in Table 3 were calculated with the general dilution rule and do not take into account the specific characteristics and assimilative capacity of Bear Creek. After preliminary evaluation of the reaeration

capability of the stream, the DEQ observed that the WLAs in column 2 of Table 2 may more accurately represent Bear Creek's true capacity. It should be noted that without the backwater areas created by the low dams on the creek, the reaeration capability of the stream may be even greater.

The assimilative capacity of a stream varies with temperature. Temperatures in Bear Creek range from above 25 degrees Centigrade during July and August to below 8 degrees Centigrade in December. Ammonia may decay half as fast in December as in August. Additionally, more oxygen is available in the water at colder temperatures; assimilation would therefore be greater in December than August.

It is possible that the TMDLs and associated allocations could be higher during cold months than in warm months. The DEQ is further evaluating data to assess water quality impacts on Bear Creek during the winter. After accounting for the greater assimilative capacity of the stream during wet weather, it is reasonable to expect an increase in wet-weather WLAs of similar order as seen in low-flow WLAs (column 1 versus column 2 of Table 2). The city will evaluate alternatives which can meet both WLA levels (based on the dilution criteria and the in-stream reaeration criteria) in order to assess the cost-effectiveness of the more stringent levels.

Phosphorous Waste Load Allocation. Ashland's wastewater treatment plant is the major source of phosphorus in Bear Creek. Other significant sources include return flows from irrigation, log pond effluent, and urban runoff. Increased nutrient levels expand the biomass of periphyton resulting in wide diurnal fluctuations of dissolved oxygen and persistent pH violations. In DEQ's laboratory assay, removal of treatment plant effluent cut the potential for algal growth in half.

Based on this evaluation of background characteristics, the DEQ proposed a WLA that reduces Bear Creek's in-stream concentration of phosphorous to not more than 80 micrograms per liter (ug/l) during the May-through-October low-flow period. In winter, cold temperatures, low sunlight, and other physical environmental features limit periphyton growth to such an extent that pH violations are not observed. Thus, a phosphorous WLA is necessary only in summer. Based on Ashland's plant design flow of 3.1 mgd and an effluent concentration of 80 ug/l, the summer WLA is 2.1 ppd. This is about 2 percent of the phosphorous now discharged from the plant.

Ammonia-Nitrogen Waste Load Allocations. The DEQ found that ammonia-nitrogen from the Ashland wastewater treatment plant occasionally increases ammonia concentrations in Bear Creek above chronic toxicity levels. The USGS had similar findings in their 1980 study. Ammonia reductions in the wastewater necessary to achieve the BOD loads discussed above will prevent ammonia

toxicity. Nonetheless, DEQ is proposing in-stream ammonia-nitrogen criteria of 0.25 mg/l during the summer and 1.0 mg/l during the winter.

Chlorine. The DEQ has estimated that chlorine loads discharged from the plant may exceed acute toxicity levels in Bear Creek. Bio-assays conducted by the DEQ on Ashland's effluent resulted in high toxicity levels. There is some concern that these assays were skewed by chlorine toxicity. This program plan allows time early in the project to assess effluent toxicity and provides for future evaluation of plant improvements so that chlorine toxicity can be eliminated.

Effort Required to Attain Waste Load Allocations

The effort required by Ashland to attain the WLAs will be significant. In order to continue discharging year-round into Bear Creek, the plant would have to polish its effluent to about 1 mg/l of BOD and 0.08 mg/l of phosphorous during low-flow periods. These levels cannot be consistently achieved without sophisticated technology that is beyond the realm of common tertiary wastewater treatment.

These proposed WLAs will, in effect, require Ashland either to construct advanced wastewater treatment facilities, or to stop discharging effluent into the creek during low-flow periods and either store it, use it for irrigation, or transport it for treatment at Medford's plant. Other alternatives, which alone would not solve the problem but could help meet water quality standards, would be to augment Bear Creek's flow with a pure water supply and to ban phosphate detergents. In-stream programs that could improve water quality include removal of low dams to enhance natural reaeration, harvest of periphyton and macrophyte growth, and artificial stream reaeration through mechanical aeration, air, or oxygen diffusion. A practicable solution will likely combine two or more of the above options.

Selection of a solution depends on the WLAs ultimately approved by the EQC. City officials believe there is sufficient justification to request that the EQC base WLAs on measured assimilative capacity rather than on the dilution rule. The dilution rule is a general, conservative guide that assures adequate protection when actual in-stream data is not available. The WLAs in Table 4 are based on real, in-stream data and investigations, and reflect the true assimilative capacity of the stream. The city contends that basing TMDLs on real data was the intent of Congress when it established the requirement.

In addition, during low-flow years such as 1988 when winter flows consistently measured 30 to 60 cfs, dilution-based WLAs would require treatment to a level between 2 and 6 mg/l of BOD, depending on wastewater flow. This would require sophisticated treatment beyond the limits of common tertiary wastewater

treatment. WLAs based on Bear Creek's actual assimilative capacity would permit effluent BOD concentrations between 4 and 11 mg/l. These levels could be achieved with typical tertiary treatment technology, and might be achieved with high-level secondary treatment combined with some peak-flow storage.

In summary, WLAs based on measured assimilative capacity more accurately reflect Bear Creek's in-stream conditions and would permit the use of reasonable technologies to achieve effluent quality goals during low-flow periods.

INSTITUTIONAL DESCRIPTION

Coordination and assistance from many governmental agencies and numerous institutional approvals, agreements, and permits will be required to complete this project. Time frames for coordinating with agencies will vary from 6 months to 18 months depending on the complexity of individual agency review or approval required. The following sections describe those agencies and discuss financing options for the project.

Environmental Quality Commission (EQC)

The program plans for Ashland and other affected agencies will be approved by the EQC. They also will establish and approve TMDLs and WLAs.

Department of Environmental Quality (DEQ)

All studies and recommendations to the Environmental Quality Commission for final TMDLs and WLAs will be by DEQ who are acting as agents for the U.S. Environmental Protection Agency (EPA).

Rogue Valley Council of Governments (RVCOG)

The RVCOG has been retained by DEQ for the TMDL process as liaison between DEQ and the affected individuals or agencies. Overall TMDL recommendations and review will be through the RVCOG Water Quality Advisory Committee (WQAC). The WQAC has representatives of:

- Jackson County Stockman's Association
- Ashland/Pinehurst Citizen's Advisory Committee
- Rogue River Valley Irrigation District
- Jackson County Commission
- US Forest Service
- Sierra Club
- DEQ
- State Fish & Wildlife
- Jackson Soil & Water Conservation District
- Talent Irrigation District

- Bear Creek Valley Sanitary Authority
- OSU Extension Service
- Audubon Society
- City of Medford Public Works Department
- Jackson County Board of Health
- Rogue Fly Fishers
- Jackson County Parks Department
- City of Ashland Public Works Department
- U.S. Bureau of Land Management
- Jackson County Health Department

Talent Irrigation District (TID)

Under one alternative, contractual agreements would have to be made between TID and Ashland to allow Ashland to discharge directly to TID irrigation canals. This could involve pilot studies and public hearings. Because of the interconnection with the Medford Irrigation District, agreements could be required with MID as well.

Bear Creek Valley Sanitary Authority (BCVSA) and City of Medford

The option of discharging to the Medford wastewater treatment plant would require agreements with BCVSA and the City of Medford for use of their respective facilities.

Jackson County

Any projects constructed outside of the city limits would require conformance with the county comprehensive plan, appropriate zoning, and other requirements.

US Bureau of Reclamation

If selected projects involve changes in operation of Howard Prairie or Hyatt Reservoirs, agreements could be required with the U.S. Bureau of Reclamation.

City of Talent

The intake for the City of Talent's water supply is from Bear Creek below the discharge point of Ashland's wastewater treatment plant. Potential concurrence or agreements with Talent may be required depending on the selected option.

City of Ashland

If projects within the city limits are selected, they would have to conform to the city comprehensive plan, zoning ordinances, and other requirements.

Department of Water Resources

Any alternative which alters the flows in Bear Creek would require approval from the Department of Water Resources. Modification to any agency's water rights would also require approval. Simply removing wastewater from Bear Creek would likely not require approval.

Department of Fish and Wildlife

Any alternative which requires in-stream modifications to Bear Creek altering fish habitat would require approval of the Department of Fish and Wildlife.

Funding Sources

The City of Ashland will explore all available sources of funds to finance this project. Likely sources would be general obligation bonds, revenue bonds supported by increased rates, state revolving loan funds, and other possible grants and funds.

OPTIONS FOR CONSIDERATION

This section describes several ways to achieve the proposed WLAs. It identifies major technical problems or questions; the regulatory agencies, governmental bodies, and private groups involved; and each option's key implementation steps.

City-Operated Effluent Irrigation

Irrigation is one way to dispose of treatment plant effluent when discharge to surface waters is restricted. The DEQ views irrigation as a "beneficial use" of effluent. They authorize application rates based on soil conditions, crops, and weather patterns. They allow no ponding or surface runoff. Wastewater application must not exceed the agronomic uptake limit of the receiving crop. The wastewater nutrient that usually limits agricultural irrigation is nitrogen. Oregon State University's Cooperative Extension Service specifies nitrogen limits for many crops.

The level of treatment at Ashland's plant would determine to what crops effluent may be applied. According to DEQ regulations, effluent from Ashland's current secondary treatment and disinfection systems could be applied to pastures, hay fields, and selected lands where food not destined for the fresh produce market is grown.

In the past, the DEQ permitted effluent irrigation of golf courses, city parks, and open spaces. These are often irrigated in the evenings to avoid contact with the public. The DEQ has

established disinfection requirements for irrigated effluent and sometimes requires a final flush of the system with potable water.

This option would use effluent to irrigate city-owned property or leased private property, or sell pumped effluent to private users. A common element here is that the city would provide and maintain the pumping and distribution equipment, and would maintain some control over the irrigation schedule.

Technical Constraints. We foresee no technical problems that would eliminate irrigation from consideration. The numerous precedents should enhance its public acceptance. The major problem would be to find enough acceptable land close to the treatment plant. The city must either own the land or acquire long-term, effluent disposal contracts with private landowners. If the city could not rely on property owners to accept effluent, the reliability of this option would be severely compromised.

This alternative probably would not require pilot studies or long-term evaluations. However, finding suitable irrigation sites would likely require a considerable amount of time. If the city considered purchasing additional land for irrigation, evaluation of this option would take still longer.

Agency Interaction. To begin effluent irrigation, the city must acquire a Water Pollution Control Facilities (WPCF) permit from the DEQ. Land purchases for storage lagoons outside the city would require interactions with Jackson County and the Rogue Valley Council of Governments (RVCOG).

Steps for Implementation. The steps necessary to pursue city-operated effluent irrigation would be to:

- Forecast effluent volumes during the summer months when WLAs would be more restrictive.
- Determine what regulations would limit effluent irrigation.
- Identify city-owned sites available for effluent irrigation: parks, golf courses, and open spaces.
- Identify private property available for effluent irrigation, such as nurseries and hay fields.
- Calculate what size storage lagoon would be required to enable effluent flow to match demand for irrigation.
- Select a site for the effluent storage lagoon.
- Establish groundwater monitoring requirements.

- Conduct a public information program.
- Obtain a WPCF permit from the DEQ. The permit application would provide for the protection of ground and surface water supplies, include a wastewater management plan, and assure land-use compatibility.
- Negotiate formal agreements with private landowners for effluent disposal. Agreements might include land acquisition, leases, or effluent sales provisions.
- Finance the design and construction of the facilities.
- Acquire pipeline rights-of-way, if required.
- Obtain a permit to construct the lagoon from the Army Corps of Engineers.
- Design and construct the storage lagoon, pumping facilities, and piping.

Effluent Utilization in the Talent Irrigation District

Ashland's wastewater treatment plant discharges into Ashland Creek about 1/2 mile above Bear Creek. The average flow from the plant is approximately 3 cfs. About 1 mile upstream of Ashland Creek, from mid-April to mid-October, the Talent Irrigation District (TID) withdraws between 40 and 50 cfs of water from Bear Creek. Ashland's treated effluent could be pumped into the TID canal carrying this irrigation water. The TID canal that would receive Ashland's effluent irrigates about 4,000 acres of agricultural land plus municipal parks in Talent and Phoenix.

This alternative may offer an opportunity to supplement the water the TID receives through Emigrant Lake with treatment plant effluent. The TID could exchange water from its reservoir allotment for an equal volume of effluent. This arrangement would offer several advantages.

First, the plant's effluent would not flow into Bear Creek during low-flow, summer months when excessive nutrient loads cause a problem. Just 3 cfs of fresh water from Emigrant Lake during low-flow periods could significantly improve Bear Creek's water quality.

Second, the 40-to-50-cfs TID allocation would highly dilute Ashland's effluent. Below TID's diversion, Bear Creek's flow is now principally plant effluent. The Medford Irrigation District withdraws the water-effluent mixture from this stretch of the creek, and insufficient dilution causes high levels of nitrates and phosphates in the MID Canal.

Finally, some TID members would like to irrigate earlier than mid-April when TID begins releasing flows from Emmigrant Lake. Treatment plant effluent is available all year and, in part, could meet this demand.

Any strategy must provide for effluent storage during periods of no irrigation. The TID canal might afford adequate storage capacity. If not, then a separate effluent storage lagoon would need to be constructed.

Technical Constraints. The effects of effluent irrigation on crops in the TID would need to be evaluated. The Medford Irrigation District now uses effluent from Bear Creek, and this irrigation could be evaluated to assess possible impacts. Irrigation equipment now used by TID members should be evaluated to determine if spraying effluent would result in excessive clogging. These concerns could be addressed by conducting a full scale field test where treated effluent is pumped into the TID channel using temporary pumping facilities.

Agency Interaction. Both the TID and DEQ must agree that this is a worthwhile option. Negotiations with these agencies could be lengthy. The city would also need a WPCF permit. The Bureau of Reclamation and the Department of Water Resources might become involved if the TID's water rights or allocations needed modification. It would be necessary to involve the cities of Talent and Phoenix because they would use TID water to irrigate parks. The RVCOG and Jackson County would also be involved in reviewing the proposal.

Steps for Implementation. To pursue this option, Ashland should:

- Begin negotiations with the TID.
- Assess regulations that limit irrigation with treatment plant effluent.
- Meet with the Bureau of Reclamation and Department of Water Resources.
- Evaluate the need for effluent storage.
- Select a site for the storage lagoon.
- Conduct a public information program.
- Finance the design and construction of improvements, if needed.
- Purchase a site for storage lagoons and acquire pipeline rights-of-way.

- Obtain a permit to construct the lagoon from the Army Corps of Engineers.
- Design and construct the effluent pumping station, force main, and the storage lagoon.

Flow Augmentation to Bear Creek

As early as 1965, the Public Health Service and the Bureau of Reclamation suggested that Bear Creek's water degradation problems could be relieved by increasing the creek's dry-weather flows. Waters from Howard Prairie Lake and Hyatt Reservoir flow through canals and streams to Emigrant Lake, then to Bear Creek. Importing more water from Klamath Basin would require a higher allocation from these impoundments.

The DEQ advanced this idea in 1985 when it suggested that a 125-cfs flush would be beneficial. The Department of Water Resources soundly rejected the concept. It also rejected a later attempt to appropriate just 1 additional cfs into Bear Creek.

The City of Ashland is currently considering a new dam in Ashland Canyon upstream of the existing dam. This new impoundment would be used as a drinking water source but could also be a source of flow augmentation to Bear Creek. An engineering study of this proposed impoundment will be completed in summer of 1989.

Technical Constraints. The ability of the waterways to carry additional flow from the Klamath Basin must be determined. The availability of additional water will certainly be an issue.

Agency Interaction. This option may involve negotiations with the Bureau of Water Resources, the Bureau of Reclamation, the Division of State Lands, Department Fish and Wildlife, the DEQ, Jackson County, the TID, and possibly other irrigation districts.

Steps for Implementation. The steps needed to carry out this option would be to:

- Negotiate with the Department of Water Resources for additional water rights.
- Meet with all other agencies mentioned in the paragraph about Agency Interaction.
- Conduct a public hearing.
- Monitor the effects of increased flows in Bear Creek.

Transport Effluent to Medford's Treatment Plant

In this option, treated or untreated wastewater would be transported approximately 20 miles north to Medford's treatment plant. The Bear Creek Valley Sanitary Authority (BCVSA) collection system already exists. It serves Talent and Phoenix, and ends north of Ashland's city limits. This pipe was not sized to include Ashland's wastewater. But it might be possible to store Ashland's wastewater in the daytime, then use this pipeline to convey some or all of it to Medford during the night when flows from Talent and Phoenix subside.

It is probable that the 30-inch BCVSA interceptor between Medford and Phoenix is large enough to accommodate Ashland's flow. A hydraulic evaluation will need to be done to verify its capacity. If this pipe were extended approximately 6 miles from Phoenix to Ashland, it may be possible to transport Ashland's flow to Medford by gravity. Pumping stations could be necessary, however, depending on the pipeline route.

If wastewater was piped to Medford, Ashland's treatment plant would not need to operate. It could be used, however, to pretreat wastewater before sending it on to Medford.

Technical Constraints. Medford's treatment plant is a sophisticated, well-operated facility. Due to its size, it has more flexibility and with certain modifications could probably do a good job of treating wastewater from Ashland. The DEQ is now reviewing Medford's WLAs for the Rogue River. Medford may need to use summer land irrigation to help meet its allocations. Adding wastewater from Ashland would necessitate modifications to Medford's WLAs and may merely shift the irrigation requirement down stream. Whether Medford's plant could easily handle the increased flow cannot be determined until the DEQ sets discharge limits for that portion of the Rogue River.

Agency Coordination. Due to the size of this project, many local and state agencies would be involved: the Bear Creek Valley Sanitary Authority, Jackson County, the DEQ, Department Fish and Wildlife, the Department of Water Resources, the Medford Irrigation District, and the cities of Talent, Phoenix, and Medford and the RVCOG.

Steps for Implementation. This option would require Ashland to:

- Negotiate with Medford to receive Ashland's wastewater.
- Work with the DEQ to set new WLAs for Medford's treatment plant.

- Help Medford calculate its current treatment capacity and decide what modifications it would need to accept Ashland's wastewater and meet effluent allocations.
- Coordinate effluent removal from Bear Creek with state Fish and Wildlife, the Department of Water Resources, and local irrigation districts.
- Conduct a public hearing.
- Finance the improvements.
- Design a system to convey wastewater to Medford. Medford would design improvements needed for the plant.
- Obtain land and pipeline rights-of-way.
- Construct the pipeline while Medford makes any needed plant improvements.

Ban Phosphate Detergents

Phosphorus has been identified by DEQ as a prime cause of Bear Creek algae growth and resultant oxygen depletion. Once it is in the wastewater, phosphorus can be removed with advanced biological or chemical treatment processes. Another possibility is to keep as much phosphorus as possible out of wastewater by banning phosphate detergents.

The Great Lakes states, portions of Montana, and states on the Chesapeake Bay have successfully banned phosphate detergents. Virginia's ban reduced phosphorus discharges from its treatment plants by 50 percent. A similar program in Wisconsin resulted in a 35 percent reduction.

Simply banning phosphate detergents would not alone solve the water quality problem due to the extremely low effluent concentrations required. Ashland would still need additional in-plant treatment to meet the phosphorus WLA. Reducing the amount of in-coming phosphorus, however, could also reduce the cost of phosphorus removal from the treatment facilities.

Technical Constraints. Imposing a phosphate ban would pose no major technical constraints. How much a ban would reduce phosphorus in the plant's influent, however, is uncertain. Following a ban, influent monitoring would define the amount of additional phosphorus removal needed.

Agency Interaction. A phosphate detergent ban probably would not require coordination with any agencies outside the city.

Steps for Implementation. A phosphate ban would require Ashland to:

- Draft an ordinance that bans phosphate detergents.
- Conduct public hearings.
- Administer the phosphate ban.
- Monitor influent phosphorus levels at the treatment plant.

In-Stream Improvements

Various in-stream improvements could be used to improve Bear Creek water quality. Some of these alternatives include:

- Removal of low dams to enhance natural reaeration.
- Harvest of periphyton and macrophyte growth.
- Artificial stream reaeration using mechanical aeration or air/oxygen diffusion.

The purpose of these alternatives would be to increase stream DO. The extent of the improvement is unknown.

Technical Constraints. There are no main technical constraints to dam removal or artificial stream aeration. However, dam removal would require alternate means of diverting water for irrigation. Harvesting of macrophytes has been done successfully in lakes but would pose difficult problems in streams. Artificial aeration could have significant impact at the point of improvement but the ability to maintain higher DO downstream is limited.

Agency Interaction. These alternatives would require close coordination with numerous agencies including DEQ, Talent Irrigation District and Department of Fish and Wildlife.

Steps for Implementation. These alternatives would require Ashland to:

- Investigate impacts of improvements.
- Negotiate agreements with impacted agency.
- Obtain necessary permits.
- Design and construct improvements.

Advanced Wastewater Treatment

The winter and summer WLAs anticipated for BOD and phosphorus were presented at the beginning of this program plan. If wastewater is not transported to Medford, then it is likely that some level of additional treatment would be required at Ashland. If summer irrigation is used, then winter allocations would drive the selection of needed process improvements.

There are several advanced treatment alternatives that could help Ashland reach the new allocations. Based on the final requirements stipulated by DEQ, the city could use one or a combination of the following:

- An anaerobic/aerobic biological nutrient removal system could be used to decrease ammonia nitrogen to a level of about 1.0 mg/l and phosphorus to a range of 1 to 3 mg/l. This process essentially modifies the activated sludge process so that a portion of the flow becomes anaerobic where bacteria remove phosphorus in a process called "luxury uptake." It is then passed into the main aerobic basins to enhance BOD removal.
- A conventional nitrifying activated sludge treatment process followed by chemical phosphorus removal could be used. Typically, alum is used to chemically tie up and settle out the phosphorus. Effluent levels of about 1 mg/l ammonia and phosphorus can be achieved with this process. For complete summer discharge, much higher levels of phosphorus removal are required.
- Only two-stage high-lime treatment has been shown to attain phosphorus levels in the range required by the WLA. This process requires addition of high doses of lime to nitrified secondary effluent followed by effluent filtration. This process is uncommon and is currently used in only one plant in this country to achieve phosphorus levels in the range required for Bear Creek. The process generates large quantities of sludge and would need to be pilot tested before selecting it as a final alternative.

Technical Constraints. BOD and nutrient removal technologies have been proven in treatment plants across the country. However, removal of phosphorus to below 0.1 mg/l is unproven. For this reason, pilot tests should be conducted before selecting this alternative.

Agency Interaction. The DEQ would be the principal agency approving an advanced treatment alternative. The high-lime option would generate significant amounts of sludge that require disposal. This might require involvement with Jackson County.

Steps for Implementation. Selecting advanced treatment would require Ashland to:

- Conduct any pilot tests needed.
- Finance the design and construction of improvements.
- Purchase additional land if needed.
- Design plant improvements.
- Construct the improvements.
- Start the new treatment facilities.

DEFINITION OF THE SELECTION CRITERIA

The list of alternatives available to the city is long and technically diverse. To make an evaluation and selection of the best alternative manageable, the list of options must be reduced to a few that are the most promising. It is important to screen out those options which for one or more reasons would be nearly impossible to implement. For this task, a series of pass/fail criteria will be developed. Each alternative is judged in light of each pass/fail criterion. Those that fail any one criterion are eliminated from further scrutiny while those that pass are retained for further in-depth evaluation.

The following is a preliminary list of pass/fail criteria. Prior to alternative screening, a brainstorming session will be held to add other criteria and finalize the list.

- Will the alternative attain the required treatment limits?
- Is the alternative technically feasible?
- Can the city maintain the necessary degree of control with this alternative?
- Is it a long-term solution or an appropriate interim solution?
- Is the alternative legal and likely to remain legal?
- Is the alternative acceptable to other participating agencies?
- Does the total cost of the alternative compare favorably with other alternatives?

EVALUATION OF ALTERNATIVES

This section describes the strategies that will be used and the effort necessary to evaluate the technical merits and cost/benefit relationships of options selected for review. The effort required for evaluation will, to a certain extent, depend on the alternatives that remain after application of the pass/fail criteria described above. All remaining options, however, will require:

- Selection of appropriate evaluation criteria.
- Collection of detailed background information.
- Development of detailed design schematics and data.
- Thorough cost analysis.
- A careful assessment of benefits.
- An evaluation of staging capabilities and ultimate capacity of the alternative.
- A detailed assessment of suitability based on reasonable evaluation criteria.

The following sections discuss each of these evaluation steps.

Select Evaluation Criteria

Selection of the evaluation criteria is a necessary first step to the alternative selection process. The criteria define the background information which must be collected and the level of detail to which each alternative must be defined. The city will develop these criteria during an initial brainstorming session. The city proposes a preliminary list of evaluation criteria following standard facilities planning format as follows:

- Capital, operation, and maintenance costs
- Reliability
- Implementability
- Flexibility
- Adverse and beneficial environmental impacts

Reliability includes such considerations as demonstrated long term performance under a complete range of flow and load conditions. It also involves the ability of the city to have control over the effluent disposal system. As an example, with effluent irrigation the city must own the irrigation site or have a long term agreement with a duly constituted agency such as the

Talent Irrigation District. A system that depended solely on one or two private landowners to accept effluent is inherently unreliable because sudden changes in that landowner's situation could lead to loss of the disposal site.

Implementability refers to considerations such as public acceptability and availability of land. In addition it involves institutional constraints such as whether agreements can be reached or necessary permits can be obtained.

Flexibility refers to the ability of the selected option or combination of options to change or expand with changing conditions. Important considerations include whether the system can respond to extremes in stream conditions and whether it can be expanded for further growth.

Any of the alternatives will have both adverse and beneficial environmental impacts. Of course the major beneficial impact common to all acceptable alternatives will be the intended improvement in water quality. However, specific alternatives, will have unique impacts. Advanced treatment at the WWTP may generate a sludge disposal problem and use large amounts of energy and chemicals. In contrast, effluent irrigation may provide the benefit of using the nutrients which are harmful to Bear Creek for their fertilizer value on agricultural crops.

Each alternative will be evaluated and rated with respect to these criteria. The highest rated alternative which does not have some fatal flaw will be selected.

Collect Background Data

The next step in the alternative evaluation process is collection of pertinent background information. This will include needed additional in-stream studies, pilot tests, field investigations, and collecting existing data and information.

In-Stream Studies. The level of in-stream studies to be conducted will be highly dependent on the alternatives selected for evaluation. Many questions remain concerning the Bear Creek data, the answers to which will impact the design of wastewater system improvements. Some of these questions could include:

- Impact of irrigation impoundments on algal growth and reaeration.
- Extent of salmon and steelhead beneficial impacts in response to improved water quality.
- Impact of benthic versus in-stream phosphorous on macrophyte growth.

- Interrelationship between carbonaceous and nitrogenous BOD impacts on the stream.
- Flow statistics for Bear Creek at Ashland.
- Impact of winter physical conditions on stream assimilative capacity.

The city will look to DEQ to assist in resolution of these issues.

Pilot Tests. Pilot tests would be required only if a sophisticated unproven technology were being given final consideration. High-lime phosphorus removal would require pilot work. Pilot tests and demonstration projects would be conducted to more reliably predict long-term performance and system costs. These tests would not be conducted until after thorough preliminary evaluation indicated that the alternative had promise for providing reliable, cost-effective treatment. More intensive in-depth pilot testing may be required to develop design criteria prior to design if such an option were selected.

Field Investigations. Additional field investigations may be needed to collect necessary data. These investigations may include but are not limited to the determination of the following:

- Current effluent phosphorus levels.
- Effluent toxicity levels including chlorine toxicity.
- Flows in Bear Creek at Ashland.

Existing Data. Existing data and information is crucial to the development of each alternative. Flow and load data, environmental data, institutional information, key implementation details, and regulatory acceptability are all important. This information is collected using a number of techniques including:

- Interviews.
- Records searches.
- Literature searches.
- Field inspections.

Define Alternative Schematics and Design Data

Once pertinent data are collected the details of each alternative must be developed. It is essential that this be done in enough detail to be assured that the alternative is technically feasible and that accurate costs can be developed. It is also important in this step that combinations of alternatives are defined and sufficiently detailed. The major step involved include the following:

- Develop process schematics.
- Perform preliminary process calculations sufficient to size system components.
- Develop design data including numbers and sizes of specific pieces of equipment and components.
- Prepare site or route layouts.

Prepare Cost/Benefit Evaluation

The cost/benefit evaluation will be a key factor in selection of an alternative. If after final WLAs are established the only remaining alternatives are unreasonably expensive, the cost/benefit evaluation by federal law can be used as a justification to request relaxation of the effluent requirements to reduce costs. Detailed cost estimates will be prepared for each option including the following:

- Capital costs required to construct and finance the improvements.
- Operational costs such as labor, materials, power, and chemicals.
- Maintenance costs.

These costs will be combined in terms of present worth prior to comparison with other alternatives. For a true cost benefit evaluation indirect costs must also be considered. Indirect costs can include such things as adverse environmental impacts caused by implementing an option.

The benefit side of the equation relates primarily to fulfillment of the purpose of the project, namely improved water quality. Some of the benefits which should be weighed against the costs include:

- Annual improvements in salmon and steelhead runs.
- Decreased water treatment costs downstream.
- Increased Bear Creek recreational opportunities.
- Beneficial use of wastewater nutrients on agricultural land.

Many of these benefits are difficult if not impossible to accurately quantify in monetary terms. The city will look to the Department of Fish and Game to provide guidance in valuating the improvements in fish runs.

Interim Staging and Ultimate System Capacity

An important aspect of the flexibility of each option is its ability to be staged and capability to handle ultimate expected growth in the Ashland service area. The city recognizes that a large, complex, and expensive project cannot happen overnight. A higher rating will be given to alternatives which can be staged over time. This could allow for initial steps to improve water quality while the difficult implementation steps are underway for other aspects of the project. It also would permit consistent improvement in water quality while spreading the costs over time. Staged project development may be easier with combined alternatives which allow for separate implementation paths for each component.

In addition to the ability to be staged, higher ratings will be given to alternatives with the capability to handle development within Ashland. Major capital investments are not warranted in an alternative which could not at least accommodate growth through the next 20 years. Highest ratings will be given alternatives which could handle projected ultimate growth.

Final Alternative Evaluation

In the final step prior to alternative selection, each alternative will be thoroughly evaluated under each criterion. A numerical decision matrix technique will be used to quantitatively compare alternatives. Each criterion will first be given a numerical weight to indicate its importance relative to the other criteria. Then each alternative will be rated under that criterion. The rationale for each rating will be thoroughly described. Finally, the total weighted scores for the alternatives will be added up with the highest totals indicating the best alternative. This alternative will then be recommended to the City Council and go through further evaluation and scrutiny prior to selection and final implementation.

FINAL OPTION SELECTION AND IMPLEMENTATION

Final selection of the option will necessarily take place only after initial implementation steps. Many approvals, permits, and agreements may have to be acquired prior to beginning construction. Each of these steps may be a stumbling block requiring redesign or even selection of a new alternative. Fortunately, a well developed alternative and implementation plan prior to this permitting can assure smooth progress through these steps. Some of the key steps involved in final selection and early implementation include:

- City Council action.
- Institutional agreements.
- EQC approval.
- Army Corps permits.
- Water Resources permits.
- Fish and Wildlife approval.
- County permits.
- State land use approval.

PROGRAM PLAN SCHEDULE

The following schedule is proposed by the city as a guide for implementing a program to meet the new water quality limits on Bear Creek. It includes time for planning, evaluation, and construction of new facilities. Program elements which can be done concurrently are identified and key dates shown. The proposed schedule indicates project completion in 1996.

3-30-89

ASHLAND PROGRAM PLAN
PROJECT SCHEDULE

1989 89 90 91 92 93 94 1994 95 96 1996

EQC APPROVES SCHEDULE

ASHLAND INTERIM NPDES PERMIT MODIFIED

9-28-89 DEVELOP AVAILABLE OPTIONS

11-28-89 DEVELOP AND SELECT PASS/FAIL CRITERIA

12-28-89 APPLY CRITERIA AND SELECT OPTIONS

1-28-90 SELECT EVALUATION CRITERIA

2-28-90 IN-STREAM STUDIES

2-28-90 CHARACTERIZATION STUDY

2-28-90 BENCH-SCALE PILOT TEST

2-28-90 FIELD INVESTIGATIONS

2-28-90 COLLECT EXISTING DATA

2-28-90 SELECT FINANCING METHOD

2-28-91 PROCESS SCHEMATICS

4-28-91 PROCESS CALCULATIONS

4-28-91 SITE AND ROUTE LAYOUTS

6-28-91 DESIGN DATA

7-28-91 CAPITAL AND O&M COSTS

7-28-91 INDIRECT COSTS

7-28-91 DETERMINE AND VALUATE BENEFITS

7-28-91 DETERMINE ENVIRON. IMPACTS

11-28-91 COMPARE COSTS AND BENEFITS

12-28-91 EVALUATE STAGING AND ULTIMATE CAPACITY

2-28-92 WEIGHT EVALUATION CRITERIA

3-28-92 EVALUATE AND RATE ALTERNATIVES

5-28-92 DESCRIBE RECOMMENDED ALTERNATIVE

6-28-92 UPDATE IMPLEMENTATION SCHEDULE

7-28-92 ASHLAND CITY COUNCIL APPROVAL

8-28-92 EQC APPROVAL

9-28-92 NEGOTIATE INSTITUTIONAL AGREEMENTS

9-28-92 OTHER REGULATORY APPROVALS

9-28-92 ACQUIRE PERMITS

3-28-93 ACQUIRE FINANCING

9-24-93 DESIGN NEW FACILITIES

CONSTRUCT NEW FACILITIES 9-24-94 7-23-96

NEW FACILITIES STARTUP

ROGUE VALLEY Council of Governments

155 S. Second Street
P.O. Box 3275
Central Point, OR 97502

503-664-6674

June 15, 1989

Neil Mullane
Hearings Officer
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

Subject: Comments on proposed TMDL criteria and procedures for
Bear Creek.

The following comments are based on almost ten years experience as Water Quality Coordinator for the Rogue Valley Council of Governments (RVCOG). These comments are not necessarily those of each of the RVCOG member agencies.

1. THE PROBLEM

The reduction of nutrients in Bear Creek and it's tributaries is critically important in attaining and enhancing existing beneficial uses. Bear Creek routinely exceeds dissolved oxygen and pH standards caused by excessive phosphorous, nitrogen and biologic oxygen demand (BOD).

Recent detailed monitoring by Department of Environmental Quality (DEQ) confirms the problem found in previous studies by the U.S. Geological Survey and other work done in the Bear Creek Valley.

These nutrients originate from point sources such as the Ashland sewage treatment plant and log pond discharges as well as non-point sources of urban and agricultural runoff and failing septic systems. When combined with natural background levels, the result is excessive algae growth which increases pH and reduces dissolved oxygen levels.

There is also an aesthetic problem associated with nutrients. Nuisance algae is apparent along Bear Creek, particularly in late summer low flow periods. It also aggravates problem moss and algae growth in irrigation canals.

Mr. Robert Baumgartner
June 15, 1989

The proposed rule also establishes the "winter high flow season" as December 1 to March 31. BCC understands that the WHFS dates would be incorporated into BCC's existing NPDES permit. This proposed permissible discharge period is inconsistent with BCC's existing NPDES permit conditions of November 1 through May 31. BCC believes that the proposed WHFS is overly conservative and compliance with flow and water quality criteria would be very difficult to achieve. A more realistic approach would be to establish a winter high flow season consistent with actual discharge conditions (approximately November through June, existing permit conditions). In addition, BCC asks DEQ to consider a program that allows stormwater discharge during periods when rainfall exceeds evaporation rates, perhaps up to six days after a storm event.

BCC's NPDES permit specifies the receiving stream as Bear Creek via its tributaries. BCC asks that DEQ retain the concept of tributaries acting as conduits into Bear Creek. Not only does this approach provide credit for natural assimilation of outflows along the tributaries of Bear Creek, but it properly designates Bear Creek as the receiving stream and the uniform monitoring point for purposes of determining compliance with the program.

Boise Cascade is very interested in being part of a successful program to improve water quality in the Bear Creek Subbasin and we look forward to working with other groups in the community with similar goals. However, to be successful, the program must be applied equitably to all point and nonpoint sources in the water basin and the plan must have achievable objectives. BCC is more likely to achieve it's share of the program if DEQ extends the planning time to eight months, establishes a more reasonable permitted discharge time period and a protocol and retains the concept of tributary conduit flow to Bear Creek.

If you have questions please call me at (208) 384-6454.

Cordially,



Glen R. Patrick
Environmental Engineer

/jlf

cc: Garrett Andrew
Bob Morris



Rogue Group - Sierra Club

June 15, 1989

Robert Baumgartner
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

Dear Mr. Baumgartner;

The Rogue Group Sierra Club supports the DEQ's special rules as proposed, to improve Bear Creek's water quality.

The State of Oregon's standards for protection of water quality in Bear Creek have not yet been achieved despite recognition of the need for improvement and the good work done so far by the present contributors to the pollution problems. We understand that some dischargers would like to see the 80 micrograms/liter for phosphorus increased to 100. We believe that the more stringent standard is appropriate. It is important to exercise the greatest diligence in the search for and implementation of ways to decrease to the lowest possible level pollution from all sources, including runoff from city streets, county roads, parking lots, log ponds, industrial operations and of course, from agriculture.

Also, if existing sources were to be allocated the entire EPA level of 100 micrograms, there would be no reserve to accommodate valid new sources and economic growth in the Bear Creek Valley might be negatively impacted.

While we recognize that it may be more difficult to achieve the cleanup goals in 5 years than in 7 or more, we believe that the more imminent the deadline the more quickly attention will be given to getting the work done. Therefore, we support the time frame proposed by DEQ.

Sincerely,

Myra Erwin, Vice-Chair
300 Grandview Dr. Ashland, Oregon 97520

cc Rep. Nancy Peterson, Senator Lenn Hannon

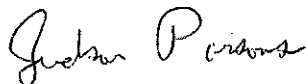
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Also, we request that the written comments period be extended for at least seven days after the hearing. We believe one day is not sufficient time for comments to be written and mailed to Portland. Everyone living in the valley, and its visitors, uses water. It is one of our most important resources. We need time to consider the problems, solutions, and alternatives, and make appropriate comments on its use and protection.

Jackson SWCD considers Water Quality a very high priority item and appreciates the opportunity to have input into the hearing.

Thank you.

Yours truly,



Judson Parsons
District Vice Chairman &
Chairman, Bear Creek CRMP Committee

JF

JUN 19 1989

Water Quality Division
Dept. of Environmental Quality

June 16th, 1989
Mike Osterman
2231 Spring St.
Medford, OR 97504
(503)773-7279

Mr. Baumgartener;

I think that the setting of TMDL's for Bear Creek has been needed for a long time. I'm very glad to see progress being made towards that end. However, I'm somewhat puzzled by the reports I've been hearing on the Medford local news. There seems to be no mention of what I consider the best solution for Ashland's problem of reducing their nutrient impact on Bear Creek.

Yesterday's 6:00 PM Channel 12 news report mentioned two possible solutions Ashland is considering. One they mentioned is irrigation of dry lands using treatment plant effluent. This would, in my opinion, appear at first glance to be the best solution in an area such as this that badly needs and will need even more in the future, low cost irrigation water. However, storage of that water during seasons of non-use would most likely be in the Emigrant Reservoir. This would still require tertiary treatment by the Ashland treatment plant to prevent seasonal algal blooms in Emigrant Lake.

The second solution mentioned was that of that of expanding Ashland's treatment facility to a tertiary treatment facility at a cost of millions of dollars to residents of Ashland who already feel that they are over-taxed, and are expressing opposition.

A third solution which I've not heard the news media mention, and the one which I feel would be best for the environment and residents of Ashland would be to extend an interceptor into the BCVSA system and gravity-flow Ashland's raw wastewater into Medford's regional wastewater treatment plant. This solution would:

- 1)Benefit Bear Creek by eliminating the phosphorus presently discharged by Ashland's treatment plant.
- 2)Allow the treated wastewater to go directly into the Rogue River where a much higher dilution rate exists.
- 3)Eliminate the duplication of efforts by the two treatment facilities, resulting in a rate reduction for citizens of Ashland.
- 4)Provide electricity from what would otherwise be wasted energy and pollution by the break-down of Ashland's solids into methane used as fuel for Medford's cogen. facility.

Engineering firms are good at providing profitable solutions to communities and ignoring those solutions which are low in cost and may be in the best interest of their residents and their environment. Please let me know if you have no channel to pass the solution I've mentioned above on to those who need to be informed about it.

Sincerely,
Mike Osterman
Mike Osterman

F75



JACKSON COUNTY OREGON

COUNTY COURTHOUSE • MEDFORD, OREGON 97501

DEPARTMENT OF PLANNING
AND DEVELOPMENT
Kerry L. Lay, Director
(503) 776-7554

June 15, 1989

RECEIVED
JUN 19 1989

Hearings Officer
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204

Water Quality Division
Dept. of Environmental Quality

Re: Preliminary Comments, Proposed Criteria, and Procedures for Establishing Total Maximum Daily Loads (TMDL) for Bear Creek

Jackson County has been active in surface water quality improvement efforts for over ten years. As a member of the Rogue Valley Council of Governments (RVCOG) we supported the original "208" research and participated in grant funded efforts relating to septic tank maintenance, stream bacterial investigations, and passive treatment. When grants were no longer available, the County continued its financial support of a reduced but effective RVCOG basinwide program to reduce non-point source water quality problems.

Jackson County recognizes the benefits of continuing this effort by reducing excessive nutrient loads in Bear Creek. However, the following concerns should be noted:

- 1) The impact of the proposed water quality parameters on Jackson County is not clear. The in-stream data and some inflow data show the nature and extent of the nutrient problem, but do not demonstrate how much is due to activities which occur in unincorporated areas, and are not subject to existing regulations. Without further data and study, it is difficult to support or challenge TMDL limits.
- 2) Our staff advises that the proposed criteria needed to achieve and maintain beneficial uses in Bear Creek do not include the natural ability for the creek to absorb nutrients (assimilative capacity). The Department of Environmental Quality should consider further investigation into this cleansing ability so that local discharge limits can be the least restrictive possible.
- 3) The five-year time period for compliance with the rules is extremely short, given the diffuse nature of non-point sources and difficulty of enforcement. We support the time extension, to seven years, requested by the city of Ashland. Furthermore, we recommend that implementation of mandatory control strategies for non-point sources not be considered until point source control benefits have been accomplished.

- 4) Jackson County will continue to participate in the TMDL process; however, it is unclear what authority the County has over private land owner activities which contribute to nutrient loadings.

- 5) Ordinances concerning irrigation and other practices which contribute to nutrient loadings from rural lands would be difficult to adopt and very expensive to properly administer. Unlike cities and special districts responsible for water distribution, counties have no legislative mechanism for imposing user fees or otherwise recouping the cost of such code administration. Based on the information we have available at this time, Jackson County would not favor such an approach.

Jackson County appreciates the opportunity to comment on this subject at this time, and we would reserve the opportunity to testify in more detail as additional information becomes available.

JACKSON COUNTY BOARD OF COMMISSIONERS


Hank Henry, Chairman


Sue Kupillas, Commissioner


Jeff Golden, Commissioner

RECEIVED
JUN 22 1989

Water Quality Division
Dept. of Environmental Quality

2948 Fairview Dr.
Medford, OR 97504
June 15, 1989

DEQ
Portland, OR

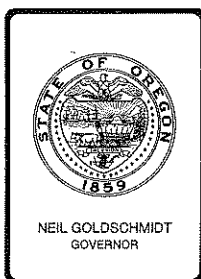
I'm unable to attend your hearing on the plan to clean up Bear Creek. Cis Dittmar and others have devoted much time & effort to do just that, but they need strong help.

Bear Creek, which will be the heart of the Bear Creek Greenway must be cleaned up. I applaud your plan - restoring Bear Creek is long overdue.

You can expect a lot of resistance from agricultural and business industries.

Please do not yield to their pressure. You'll have a lot of support. Stick to your guns!

Sincerely
John P. Brown



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission Date: June 28, 1989

From: Robert P. Baumgartner

Subject: Summary of Response to Comments Received in Rule Making
Hearing on Proposed Rule OAR 340-41-305(1) (Attachment E)

Proposed Bear Creek Total Maximum Daily Load Rule

The testimony can be divided into eight major sections as follows:

1. Phosphorus Criterion
2. Seasonal Limits
3. Final Compliance Date
4. Basin Treatment Criteria--Dilution Rule
5. Date for Submittal of Program Plans From Log Pond Dischargers
6. Tributaries as Conduits of Waste
7. Lack of Enforcement
8. Other Concerns:
 - a. Small communities' difficulties;
 - b. All nonpoint sources are not known;
 - c. Impact of rules on Jackson County not clear;
 - d. Responsible agency for various nonpoint sources is not clear;
 - e. Conveyance of Ashland's wastewater to Medford should be an option;
 - f. Extend the comment period for seven days;
 - g. Instream attenuation;
 - h. Alternative winter BOD; and
 - i. Clean up Bear Creek.

The remainder of this report discusses the concerns by section.

1. PHOSPHORUS CRITERION--Total Phosphorus of 0.10 mg/l (100 μ g/l)

Several commenters requested that EPA's suggested criteria of 100 μ g/l total phosphorus be adopted rather than the proposed 80 μ g/l. Commenters suggested that if the Commission elects to not adopt the 100 μ g/l criteria that the Department continue to monitor Bear Creek. When point source compliance is attained, the Department should re-evaluate the proposed criteria and nonpoint source load allocations.

One commenter suggested that the 80 $\mu\text{g}/\text{l}$ be adopted to decrease pollutant levels to the greatest extent possible.

Department's Response:

The request for continued monitoring is reasonable. The Department will continue to monitor Bear Creek but not as intensively as the past year. Additional monitoring information will be used by the Department, point source dischargers, and responsible nonpoint source agencies to continue to review and refine the TMDL and interim allocations.

The Ashland STP is the major nutrient source to Bear Creek. Achieving compliance with the TMDL at Ashland can be expected to have a major positive effect on water quality in Bear Creek. This change in loads justifies a review of instream water quality conditions. However, the Department believes that nonpoint source program and implementation plans will be required to protect the beneficial uses of Bear Creek. Requirements for nonpoint source program plans should not be ignored.

Several alternative concentrations for phosphorus were reviewed. These alternatives are discussed on page five of the initial Bear Creek staff report. The Department felt that the 100 $\mu\text{g}/\text{l}$ concentration would not provide assurance that the pH standard under typical low flow conditions would be achieved. The EPA suggests a 100 $\mu\text{g}/\text{l}$ total phosphorus limit for streams to prevent nuisance algal growth. However, the EPA also states that site specific data should be used where available. The Department feels the site specific data provide adequate reason for requiring a stricter limit than the EPA suggested criteria.

Department's Recommendation:

The Department recommends that the Commission adopt the proposed phosphorus criteria of 80 $\mu\text{g}/\text{l}$.

2. SEASONAL LIMITS

Several commenters requested that the low flow period be defined as June 1 through November 30. Other commenters requested the low flow season be set from May 31 to October 31 as defined in their existing permits.

Log pond dischargers suggested that the dates for the wet weather period be consistent with their existing permit conditions which extends from November through May.

Department's Response:

The low flow season for the Rogue basin as defined by OAR 340-41-375 is ". . . approximately May 1 to October 31". The proposed rule taken to public hearing defined the low flow season as April through November. After review of the testimony, it was determined that it was

inappropriate to include April. The proposed rule defines the low flow period for Bear Creek as approximately May 1 to November 30.

The alternative proposals for summer conditions from June through October describe the period that summer conditions can be expected to occur. The transitional period when low flow conditions may occur is outside of these suggested dates.

Commenters felt that the rule may be interpreted such that the dates were taken verbatim and would exclude the potential for physical conditions that would justify "winter discharge". This interpretation could result in increased costs. Cost increases could result by the necessity to design a treatment plant that will achieve summer limits during the approximate time period when winter conditions can reasonably be expected to occur.

In effect, there are two alternatives:

- a. Extend the definition of approximate summer season to include November with specific language that allows physical conditions to describe high or low flow conditions in each permit, or
- b. Remove the month of May from the definition of low flow season and do not extend the season to include November. Similar language to above could be included in permits that would define conditions that would extend, or initiate the summer season.

The Department recommends that the seasonal low flow period be defined as "approximately May through November."

The Department recognizes that the low flow season is not a fixed event that occurs on the same calendar dates each year. The proposed language allows physical conditions, such as flow and temperature, to be used to define when low flow conditions will exist for each permitted discharge. This language allows the flexibility to adapt the definition as required by the needs of the individual discharge as long as the assimilative capacity of Bear Creek is not exceeded.

The Department proposes to extend the definition of low flow season to include November for the following reasons:

- a. Stream flows can be expected to be low during parts of, or all of November. Although November is generally a transitional period between low and high flow, historical records show that the flow in Bear Creek is much lower in November than typical winter months of January through April.
- b. Dissolved oxygen violations, 73% of saturation, have been observed in November below the Ashland STP during the recent studies. These violations were due to inadequate dilution during the low flow conditions.

- c. Permits may include language that define physical conditions of flow and temperature that could allow winter discharge.

The month of May can be expected to be a transitional period between high flow and low flow seasons. High stream flows can reasonably be expected throughout May. However, the Department does not propose to exclude the month of May from the definition of "low flow season" for the following reasons:

- a. Historical information shows that algal growth results in diurnal pH violations in Bear Creek at Kirtland Road during the month of May.
- b. The Department believes that nutrient limits need to be in place when physical conditions do not limit algal growth. Temperatures in May approach 15°C, which is warm enough to allow rapid algal growth and nitrification of ammonia.
- c. Language may be added to individual permits which define the physical conditions that would permit winter wet weather limits to be applied. This language would assure that the required controls are applied unless the assimilative capacity of Bear Creek allows wet weather discharge limits.
- d. Including the month of May as the beginning of the low flow period is consistent with existing basin plan requirements.

Log ponds have different discharge quality and requirements than does the Ashland STP. Because of these differences, the physical parameters that allow a "winter wet weather" discharge, as further defined in permits, would be expected to be different than those described in Ashland's permit. The program plans will need to discuss factors which would justify winter discharge based on winter WLAs during the transitional months.

Discussion of Seasonal Limits

Seasonal criteria are proposed because of natural variation in assimilative capacity due to changing physical conditions. Key physical factors that influence the assimilative capacity include sunlight, water temperature, and stream flow. The assimilative capacity of Bear Creek is dependent on several factors. However, it is not practical to define a specific TMDL for every potential combination of conditions. Seasonal criteria characterize the difference in assimilative capacity.

Flow: Runoff, resulting in high stream flow, is a key parameter in determining the assimilative capacity of a waterbody. The following table describes the seasonal distribution for the percent of average annual runoff from the Bear Creek Basin.

Bear Creek at Medford
Percent of Annual Runoff by Season

January - April (Winter)	61.2%
May - June (transitional)	15.0%
July - October (Summer)	8.8%
November - December (transitional)	15.0%

In any single year, the runoff patterns would be expected to vary significantly. However, the table does describe the typical seasonal pattern. The high runoff period is typically January through April. The low runoff period is from July through October. The months of May, June, November and December are transitional months.

Rainfall patterns do not exhibit the same annual distribution as runoff. This is a typical phenomenon. Runoff lags, approximately three months, behind rainfall. In undeveloped areas, high runoff does not occur until the soils have been saturated. The log pond dischargers must address how they will handle the rainfall that falls onto or is drained to their ponds during the low runoff periods as well as how they will achieve their WLAs during the wet weather period.

Temperature: Temperature is a key parameter affecting water quality. The rate of algal growth, the rate at which oxygen demand is exerted on a stream, and the amount of oxygen in a stream are all dependent on temperature. In general, low temperatures result in lowered algal growth and reduce the rate at which oxygen demand is exerted. Warm temperatures increase these rates and lower the assimilative capacity of the stream.

Temperature in Bear Creek varies seasonally as well as daily. There is not a clear break between summer and winter conditions. Temperature increases gradually, reaching a peak in late summer and a minimum during the winter.

Water Quality

pH: The pH violations in Bear Creek are due to algal photosynthesis and respiration. Observed pH levels exceed standards and are above levels identified by EPA as being directly toxic to fish and aquatic life. When algal photosynthesis controls pH levels, a diurnal trend will exist. Instream pH will be high during the late afternoon; during the night and early morning when sunlight availability limits growth, the pH will be low.

During the winter, physical factors of cold temperatures, low sunlight levels, and high flows combine to control algal growth and pH. Nutrient limitations are required when physical factors do not combine to limit algal productivity. Physical factors may not limit algal growth and pH violations in Bear Creek during May.

Figures __ and __ illustrate the historical pH data at Kirtland Road. During the winter, there is no diurnal increase in pH and standards

violations do not occur. Spring and summer data show a clear diurnal pattern and routine pH violations during the afternoon. Diurnal variation resulting in pH violations can occur as early as May. By this time, instream temperatures are 15°C and stream flows are dropping off. Standards violations have been observed to persist into early November.

Dissolved Oxygen: State standards and EPA criteria recognize the need to maintain high dissolved oxygen levels to protect the early life stages of salmonid production. The Oregon Department of Fish and Wildlife has stated that one or more of the life stages defined in OAR 340-41-325(2)(a)(A) occur throughout Bear Creek from October through May. The more restrictive (95% saturation) standard should apply for this period.

Very little historical data exists for locations where the oxygen deficit from the Ashland STP would be expected to occur. Winter violations of the 95% saturation standard do occur in Bear Creek below Ashland. However, typical values are within the no impairment levels as determined by EPA. Approximately 28% of the samples from the Valley View site collected from December through April fall in the range where no impairment or slight impairment would be expected as described by EPA.

Dissolved oxygen violations below Ashland are more extreme and frequent following the irrigation season in the fall and continue until winter flows provide adequate dilution. Data collected in 1988 showed dissolved oxygen levels of 7.6 mg/l (73% of saturation) in November. This level is well below the standard, within what EPA defines as moderate to severe impairment for embryo and larval stages of salmon, and in the range of no impairment to slight production impairment for other salmonid life stages. The TMDL needs to assure that dissolved oxygen standards will not be violated during this critical low flow period.

The proposed approximate time period for low flow conditions extends through November. This period covers the time when routine dissolved oxygen violations have been observed below Ashland. The rule also states that the precise dates for compliance may be conditioned on physical conditions such as flow and temperature.

At typical winter temperatures of less than 10°C, nitrification is inhibited and occurs much slower than at summer temperatures. Reaeration is not inhibited by temperature. Therefore, the assimilative capacity is greatly increased at low temperatures.

Maximum decay rates and minimum assimilative capacity occurs between 20° and 30°C. These temperatures are reached in Bear Creek by the end of June and exist through September. Although temperatures do not support maximum decay rates in May, temperatures by the end of May exceed 15°C and decay rates approach maximum. Temperatures in April appear to be below levels required to allow the proposed winter discharge.

Temperatures by late fall are fairly cool, approaching 10°C. The primary factor for determining "winter conditions" will be the amount of instream flow. Average runoff in November is 4.3% of the annual average, much less than the monthly contributions that occur in the winter months of January through April. The proposed rule would assure that stricter limits apply until it is shown that adequate dilution exists to prevent dissolved oxygen violations.

The description of physical conditions could depend on the control options selected. Intensive surveys in Bear Creek did not focus on the transitional periods between high flow and low flow seasons. Additional information focusing on spring and fall conditions may be required for defining the actual conditions.

3. FINAL COMPLIANCE DATE

The City of Ashland requested that the final compliance date be extended from December 1994 to November of 1996. The extension was justified in the time schedule presented in the program plan adopted by the City of Ashland. Several commenters supported Ashland's request for an extension in the compliance period.

Department's Response:

The Department recommends that the Commission retain the proposed five year compliance deadline. The proposed rule requires that all program plans be subject to public comment. No comments were proposed to eliminate this requirement from the proposed rule. The Department has not fully reviewed the program plan or accepted public comment on the plan. Until these steps in the process are complete, approximately 180 days following adoption, the Department can not support the alternative date suggested in the program plan.

4. BASIN TREATMENT REQUIREMENT -- DILUTION RULE

The City of Ashland, and their consultants requested that waste load allocations be based on the assimilative capacity of Bear Creek rather than by the dilution rule contained in OAR 34-41-375(c). The concern was presented as a request for exemption from the dilution requirement by the Commission. The dilution rule specifically allows exemption approved by the Commission.

Department's Response:

The dilution rule requires that the effluent BOD concentration divided by the dilution factor shall be less than one. For example:

At 30 cfs in Bear Creek past Ashland with a design flow of 3.1 mgd (4.8 cfs), the dilution ratio is $30 \div 4.8 = 6.5$.

The Ashland STP would have to achieve a maximum of effluent concentration of BOD at 30 cfs of 6.5 mg/l.

Some commenters noted that the dilution rule was a rule of thumb that equated load to instream oxygen supply. This interpretation is not consistent with the discussion of the dilution rule in the basin management plans. The intent of the Commission when adopting this rule was:

"The intent of this section [dilution rule] is to assure that following a high degree of treatment, effluents are adequately diluted to protect the public health, aesthetics, aquatic life and beneficial uses of the waterway. It is further intended that this section be one of the primary mechanisms to insure protection of water quality in headwater stream."

To provide technical justification for exemption from the dilution rule, there must be available assimilative capacity for all pollutants, not simply oxygen demand.

The proposed TMDL criteria define the assimilative capacity for nutrients, oxygen demand, and ammonia toxicity. The TMDL and the City of Ashland's program plan also describe the time frames for achieving chlorine residual limits and for addressing the whole effluent toxicity observed during the field studies. Achieving the TMDL provides the technical justification for waiving the dilution criteria for Ashland.

The Department believes that there are two criteria that have to be evaluated to justify exemption from the dilution rule. The first criterion is the assurance that adequate assimilative capacity exists in the receiving stream. The second argument is economic. The permittee must show that costs to achieve requirements of the dilution rule are unreasonable. The City of Ashland's program plan identifies that alternatives will be reviewed and evaluated by May 27, 1992.

The Department believes that the alternatives reviewed should include those alternatives that would achieve the TMDL and the existing basin design criteria. The Department recommends that the EQC not waive the dilution rule at this time. Justification of waiver based on cost is not available at this time.

The City of Ashland needs to know that they can reasonably pursue options that do not meet the dilution rule. The Department believes achieving the TMDL will protect the beneficial uses of water in Bear Creek. The Department recommends that the Commission acknowledge that options that achieve the TMDL but do not meet the dilution rule may be evaluated and acceptable to Commission.

5. DATE FOR SUBMITTAL OF PROGRAM PLANS BY LOG PONDS DISCHARGERS

Two companies who operate log ponds requested the date for submitting a program plan be extended from 90 days after adoption of rules to 8 to 12 months after adoption. The 90 days would allow them only 30 days after the distribution of waste load allocations to develop a program

plan. They claim this is insufficient time to develop reasonable program plans.

Department's Response:

The alternative time frames would require program plans to be submitted either by March or July of 1991. Unlike municipal discharges, there is a scarcity of effluent flow and effluent quality data from the log pond discharges. There is even less information on receiving water quality. It will be necessary to collect this information in order to determine the effect of the waste load allocations on the permitted wet weather discharges. Commenters felt that a credible program plan needs to be based on dependable data.

The Department agrees with the suggestion to extend the program plan submittal date. The discharge period occurs during the winter high flow season. Either eight months or one year would cover the wet weather season. One year would provide an additional four months following the wet weather period to submit program plans. The Department suggests adopting the alternative date of one year.

Draft plans should be submitted to the Department for review within eight months of rule adoption. The option to review draft plans allows assurance that the information the Department needs to evaluate alternatives and waste load allocations will be provided in the final plan.

6. TRIBUTARY AS CONDUITS

One commenter requested that the Commission retain the concept that the tributaries carrying log pond overflow are conduits for the waste and the receiving stream is Bear Creek.

Boise Cascade testified that tributary streams carrying log pond discharges should be considered as conduits for discharge to Bear Creek. Boise Cascade testified that the receiving stream was identified as Bear Creek, via tributaries, in their NPDES permits. Identification of the receiving as Bear Creek implies that the tributaries act as conduits for the waste to the receiving stream.

There is certainly inconsistency with the identification of Bear Creek as the receiving stream. The discharge location for log pond overflow is identified as Elk Creek. The mixing zone is identified as a specific portion of Elk Creek. The Department's existing policy is for water quality standards to be met outside of designated mixing zones. Applying this policy requires that basin water quality standards should be met in Elk Creek.

The beneficial uses for tributaries to Bear Creek are defined in OAR 340-41-362, Table 5. The Oregon Department of Fish and Wildlife, however, has indicated that fisheries population do not exist in the streams receiving log pond overflows.

Allowing the tributary streams to be identified as conduits for wastewaters implies that beneficial uses will not be protected in the stream. The transport of waste is not a recognized beneficial use of receiving water. However, some attenuation of pollution may occur in the tributaries. If the Commission elects to allow the receiving streams to be used as waste conduits, the mixing zone should be described as the entire tributary to the receiving stream.

Department's Response:

The Department recommends that the Commission not identify the receiving streams as simply conduits for waste to Bear Creek. This definition would in effect identify the entire receiving stream as the mixing zone for the log pond discharges.

Prior to eliminating a beneficial use, it should be demonstrated that the uses can not be attained at a reasonable cost. This information is currently not available. The log pond dischargers have proposed a year following adoption to collect the necessary information and develop program plans. These plans should identify options for protecting the beneficial uses in the tributary stream as well as in Bear Creek. With an evaluation of options and potential cost, a reasonable evaluation of impact on beneficial uses in the receiving water can be conducted.

The discharge of log pond effluent to tributary streams may create problems not specifically covered under the TMDL. Existing water quality standards (OAR 340-41-365(2)) do not allow:

- "(j) The formation of appreciable bottom or sludge deposits or the formation of any organic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry . . .
- (k) Objectional discoloration . . .
- (l) Aesthetic conditions offensive to the human senses of sight, taste, smell, or touch . . ."

Log pond runoff can be high in suspended solids and settleable solids. These waste characteristics can lead to discoloration of the water and buildup of appreciable bottom sludges. The program plans developed by the permitted log pond dischargers need to demonstrate that their proposed discharge will not violate any applicable standard.

7. LACK OF ENFORCEMENT

One commenter stated that it will do no good to set stronger discharge limits and criteria if the Department does not enforce standards as they have failed to do in the past. The commenter supplied a copy of a specific complaint that they filed in April of 1988.

Department's Response:

At least one log pond has been discharging to Bear Creek without regard to permit conditions for the past ten years. This continuing discharge is an obvious and gross violation of permit conditions. Several complaints have been received by the Rogue Valley Council of Governments and passed on to local DEQ officials. Presumably, several complaints have been directed to the local DEQ office.

For other log ponds, there is inadequate information to determine discharge loads. Monitoring is insufficient to determine if violations occur. One representative of a permitted log pond discharger has noted that doubts that the receiving stream even supplies the 50:1 dilution required in their general permit.

There has been concern with the lack of enforcement. The Water Quality Coordinator for the Rogue Valley Council of Governments has stated similar concerns with the lack of enforcement. Enforcement of water quality standards and effluent criteria is a necessary component of any plan to protect beneficial uses. The Department is the responsible agency for enforcing water quality standards and permit conditions. Recently, the Department filed notice of violation against MEDCO for discharge to Bear Creek in violation of their permit conditions.

The establishment of TMDLs represents a change in the Department's approach to water quality problems. In the past, the Department established effluent criteria based on the ability of the treatment process to remove pollutants. The TMDL requires that the effluent levels identified in the permits be based on the receiving waters ability to assimilate pollution. The Department fully intends that the levels established by the Commission will be attained.

8. OTHER CONCERNS

- a. Small communities' difficulties.
- b. All nonpoint sources are not known.
- c. Impact of rules on Jackson County not clear.
- d. Responsible agency for various nonpoint sources is not clear.

Jackson County and the several other commenters discussed several concerns that have a similar theme. The concern is that there is insufficient knowledge regarding components of compliance strategies. These concerns include:

- (1) The impact of the proposed water quality criteria on Jackson County is not clear. Data do not show how much of the load is being generated in unincorporated urban areas that are not subject to existing regulations.
- (2) It is unclear what authority the County has over private land owner activities which contribute to nutrient loadings.
- (3) Ordinances concerning irrigation and other practices which contribute to nutrient loadings from rural lands would be

difficult to adopt and expensive to administer. Jackson County would not favor such an approach.

Department's Response (8a-d):

The Department recognizes that all the answers are not yet available and that initial allocations may change upon further information becoming available. The strategies and time lines for collecting additional information and evaluating compliance schedules need to be defined in program plans. The proposed rule requires that program plans be developed and submitted by Jackson County and the incorporated cities within the Bear Creek basin.

Program plans will provide information, or strategies for answering the questions asked by Jackson County. The Department has provided assistance to the County, through the Rogue Valley Council of Governments, for developing appropriate program plans. Assistance includes a description of the Department's expectations of a Program Plan:

Guidance for Nonpoint Source Watershed Management Plans, 1988

Nonpoint Source Statewide Management Plan for Oregon, 1988

Assistance provided includes technical guidance for program plan development such as:

Results of the Nationwide Urban Runoff Program - Final Report USEPA 1983

Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality USEPA 1986

Guide to Nonpoint Source Pollution Control, USEPA 1987

Planning Guide for Evaluating Agricultural Nonpoint Source Water Quality Controls USEPA 1982

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Washington Metropolitan Water Resources Planning Board, 1987

Guidance also includes examples of urban and rural nonpoint source control programs:

Bellevue Urban Runoff Program, Summary Report, 1984

Rock Creek Rural Clean Water Program Comprehensive Water Quality Monitoring, Annual Report, (Idaho Department of Health and Welfare, Division of Environmental Quality) 1988

The Department has provided funding for the Rogue Valley Council of Governments (RVCOG) to act as a liaison between the Department

and the affected agencies and provide technical review of the available information. The Department has further funded the RVCOG for the next biennium to provide local guidance and coordination of program plan development.

All the answers are not yet known. The Department believes that the development of program plans will allow a reasonable and cost effective approach for addressing nonpoint source pollution problems in the Bear Creek Basin.

- e. Conveyance of Ashland's wastewater to Medford should be an option.

One commenter noted that conveyance of Ashland's waste should be included as an option. This option would result in several advantages:

- o Eliminate major pollution loads to Bear Creek
- o Eliminate duplication of effort
- o Provide a rate reduction for Ashland residents
- o Provide electricity by breakdown of solids as fuel for Medford's COGEN facility rather than waste energy and produce pollution.

Department's Response:

This option is being considered by the City of Ashland.

- f. Extend the comment period for seven days.

One commenter requested that the comment period be extended seven days beyond the hearing.

Department's Response:

The Department did not extend the public comment period for one week following the hearing. The role of the hearing is not to hold an information session. The hearing provides an opportunity for public comment to be reviewed and responded to by the Department. This comment may be either written or orally submitted into the record, or both.

The Department did note at the hearing that comments received late would be reviewed and included in the record. However, late comments are not made part of the official hearings record. One late comment was received.

- g. Instream attenuation.

Several commenters requested that the Commission direct the Department to include instream attenuation in the preliminary load allocations.

Department's Response:

The request is for the Commission to require the Department to include an estimate of instream assimilation in the preliminary load allocations. Although this concern does not directly affect the proposed rule, it will influence the preliminary allocations that are required within sixty days of rule adoption.

The criteria proposed describe the loading capacity for phosphorus and oxygen demand in Bear Creek. The request is that the Commission direct the Department to include an estimate of the amount of instream losses that may occur in the initial allocations. To avoid confusion the term "instream attenuation" will be used to describe the request.

The Department has had several meetings and is currently working with a local advisory group to develop preliminary load allocations and waste load allocations. This process allows for direct local input and provides a reasonable forum for developing preliminary allocations. The Department recommends that the Commission not require the Department either to include or to not include an estimate of instream assimilation in the initial allocations.

By definition load allocations are ". . . best estimates of the loading which may range from reasonably accurate estimates to gross allotments, depending on the availability of appropriate techniques for predicting loading . . ." The Department's concern is that the preliminary allocations are a reasonable estimate of what will be required to achieve standard.

For the oxygen demand TMDL, instream attenuation in the form of decay and reaeration has been used to develop allocations discussed to date. Potential instream loss of phosphorus has not been quantified for Bear Creek or its tributaries. Some research has indicated that instream attenuation can be significant.

Quantifying instream attenuation under drastically different conditions such as when the TMDL is achieved is difficult without supporting data. The amount of phosphorus removal would be expected to be different under lower phosphorus loads than those that currently exist. For example, as instream levels drop to where nutrients limit algal growth, the amount of internal recycling becomes a major source of available nutrients.

The existing allocation process allows for instream attenuation to be accounted for. Accounting for instream attenuation is necessary to allow for passive treatment systems to be used. If options for passive treatment systems are used, for either tributaries or Bear Creek itself, the estimates of instream attenuation will have to be changed to reflect those options.

The following calculations illustrate how instream attenuation is accounted for:

Example Option 1, Sub-basin allocation without knowledge of instream attenuation.

Flow: 10 cfs:
Criteria 80 $\mu\text{g}/\text{l}$
Load Allocation $10 \text{ cfs} * 80 \mu\text{g}/\text{l} * 0.0539 = 43 \text{ lbs}/\text{day}$

Available load = 43 lbs day
Attenuation = unknown
Load Allocation = 43 lbs/day

Example Option 2, Sub-basin allocation with planned passive treatment system removing 20% of total phosphorus.

Flow 10 cfs:
Criteria 80 $\mu\text{g}/\text{l}$
Load Allocation = 43 lbs/day

Available Load = 54 lbs/day (allocation)
Instream Attenuation = -11 lbs/day (allocation)
Basin Load Allocation = 43 lbs/day (load allocation)

The instream attenuation is accounted for as a negative load allocation. The preliminary load allocations discussed to date calculate the final load allocation required to achieve the TMDL.

Program plans and compliance plans will be developed to determine how these allocations are to be achieved. Potential options include passive treatment systems. Passive treatment systems in effect increase the instream attenuation. As the options are reviewed and selected, the allocations will have to be refined to reflect changes in the attenuation. The program plans, or the compliance plans developed from the program plans, may provide a preferable forum for including attenuation into the allocations.

The program plans may not be able to identify specifically the location and effectiveness of passive treatments. However, the program plans can describe strategies and time frames for reviewing passive treatment options. Similarly, the program plans can define a time frame for refining the IAs when additional information is available on passive treatment or instream attenuation.

The Department does not reject strategies that include estimates of instream attenuation in the initial allocations. Including estimates of attenuation would tend to disguise what is required to achieve standards. If instream attenuation is included, the program plans must describe how that negative allocation will be verified.

h. Alternative winter BOD.

During review and discussion of the TMDL with EPA, an alternative winter BOD criteria was described.

Although formal comments were not presented, EPA staff have been providing review and input into the development of the TMDL for Bear Creek. EPA was concerned with the winter proposed BOD criteria. The proposed criteria exceeds the observed level of BOD₅ at the historical Kirtland Road sampling site. EPA staff felt that the winter BOD TMDL could be interpreted to allow excessive oxygen demand loads to Bear Creek. The proposed special policies and guidelines should provide criteria that are not confusing and can be readily measured.

Department's Response:

Limits based on any component of biochemical oxygen demand have the potential for confusion. For example, substantially higher reaeration exists in Bear Creek near Ashland. A significant amount of additional flow for dilution will occur between Ashland and Kirtland Road. Because of greater assimilative capacity and additional dilution, the oxygen demand concentrations may be higher in Bear Creek near Ashland than at Medford.

Establishing the criteria on the measured five-day BOD provides the advantage of direct instream measurement. This is the parameter measured in the field and data can be directly compared to the criteria or the historical records. The major concern, as stated above, is that instream BOD₅ can reasonably be expected to be higher in upstream locations where greater assimilation is available. It is therefore necessary to define where in Bear Creek the measurements are to be taken.

The Kirtland Road sampling site provides the longest historical record and is in a region of concern during the winter. The Kirtland Road site is low in the basin and will provide a measurement of Bear Creek's load to the Rogue River.

The Department recommends defining the winter BOD criteria as a median value of 2.50 mg/l instream BOD₅ as measured at Kirtland Road. This alternative will allow ambient data to be compared directly to the criteria. Specific waste load allocations will have to include the instream attenuation and dilution that will occur in Bear Creek. It can reasonably be expected that BOD₅ measured upstream of Kirtland Road may exceed 2.5 mg/l and not result in a dissolved oxygen standards violation. When comparing this value to the original proposal, 7.3 mg/l in Bear Creek, it is necessary to remember that the original proposal was for biochemical oxygen demand including the nitrogenous demands and applied anywhere in Bear Creek. The proposed 2.5 mg/l BOD₅ provides a more direct measurement for evaluating the criteria and the effectiveness of the basin water quality management plans.

The Department believes that this level will protect the beneficial uses of Bear Creek during winter wet weather conditions.

The winter period dissolved oxygen violations near Kirtland Road in Bear Creek are frequent but not extreme. Since 1975, approximately 30% of the winter samples at Bear Creek have fallen below the 95% saturation standard. Observed minimum dissolved oxygen levels of 8.6 mg/l fall between what EPA defines as slight to moderate production impairment for salmonids. Four percent of the samples collected fell below the EPA suggested criterion of 9.5 mg/l.

Data collected during the last three years has shown an increase in BOD₅ levels and a greater frequency of dissolved oxygen violations. This occurrence may be due to the lower flows in Bear Creek resulting from low runoff. During the intensive surveys, dissolved oxygen violations appeared to be associated with periods of high loads and low stream flows.

The proposed winter criteria is below the average BOD₅ levels observed since 1985 (3.0 mg/l). The criteria is consistent with the long-term median value observed since 1975. Waste load allocations using the proposed criteria will lead to reduced winter BOD loads and prevent the occurrence of high load discharges during low winter flows. The Department believes that the criteria will protect the beneficial use of salmonid production in Bear Creek.

i. Clean up Bear Creek.

One commenter noted that the Department should expect a lot of resistance from agriculture and business; however, Bear Creek does need to be cleaned up.

Department's Response:

The Department is committed to cleaning up Bear Creek.

Water Quality of Bear Creek Basin, Jackson County, Oregon

By Loren A. Wittenberg and Stuart W. McKenzie

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations
Open-File Report 80-158

Prepared in cooperation with the
Rogue Valley Council of Governments and the
Oregon Department of Environmental Quality

*These originals are copied
in main report already
(Separated because
they would jam the
copier)*



1980

The following questions posed by La Riviere, Quan, Westgarth, and Culver (1977, p. 22) are answered by the authors of this report.

1. What are the sources of contamination by fecal bacteria and how can the sources of bacteria be controlled?

Sources of fecal coliform bacteria include combined sewers; irrigation-return flows, especially from pastures; and overland flow. Reduction of combined-sewer and irrigation-return flows could reduce the concentration of fecal coliform bacteria.

2. What benefits can be derived from augmenting Bear Creek flows?

Depending on the source of water and its characteristics, increased flows in Bear Creek could (a) increase DO concentrations; (b) aid in holding pH below 8.5; (c) decrease turbidity; and (d) decrease concentrations of fecal coliform, fecal streptococci, ammonia, nitrite, nitrate, orthophosphate, and suspended sediment in Bear Creek. Increased flows could also improve the quality of water available from canals for irrigation.

3. What are the man-related sources of suspended sediment in the basin?

Suspended sediment results from overland flow of surface water; point sources, such as combined sewers and industrial outfalls; and the sluicing of Reeder Reservoir. Overland flow includes storm-water runoff as well as irrigation-return flow. Any land-use activity that leaves the soil exposed to erosion contributes to increased concentrations of suspended sediment in the streams. These activities include (a) construction of homes, office buildings, and highways; (b) agricultural practices, such as row-crop cultivation, plowing, and disking; and (c) timber harvesting. All these practices either disturb existing vegetative growth or leave the soil devoid of vegetation.

4. What methods can be used to minimize the suspended-sediment problem in the basin?

Suspended-sediment problems can be minimized by controlling or eliminating erosion. This is accomplished by (a) reducing overland flow, (b) minimizing the creation of erosive areas, and (c) intercepting suspended sediment before it reaches the streams. Some irrigation methods, such as sprinkler and drip, help to reduce overland flow. The use of settling ponds and (or) grassed waterways for transporting return flows will remove some suspended sediment from the water.

5. What Best Management Practices will minimize the turbidity problems related to irrigation water?

Generally, reduction of suspended sediment will also help to reduce turbidity. Pastures are especially effective in removing turbidity-causing material.

6. What are the impacts of ammonia concentrations from sewage-treatment-plant effluent on fish and on aquatic insects?

No direct impact of ammonia on aquatic insects was noted. Un-ionized ammonia exceeded reference levels in Bear Creek several times, as did nitrite from oxidation of ammonia.

7. What is the impact of the nutrients from sewage-treatment-plant effluent on primary productivity?

Sewage-treatment-plant effluent is the primary source of nitrogen and orthophosphate to Bear Creek. These nutrients, along with the particle size of the streambed material, are believed to control biological productivity.

8. To what extent do the nutrients, through biological productivity, influence the diel variations in DO and pH?

Larger diel DO and pH fluctuations appear to be associated with higher concentrations of nitrate. This does not, however, apply to sampling sites immediately below Ashland Creek (sites 102 and 108). These two sites appear to have more nitrogen available than needed, but they lack an adequate in-stream substrate to allow the growth of periphyton.

9. Do the diel variations of DO and pH have a measurable effect on fish or aquatic organisms?

No measurable effect on the aquatic organisms was detected in the data as a result of diel fluctuations in DO and pH. The methods of in situ measurement, however, are not necessarily sensitive enough to detect all effects on aquatic organisms.

10. Does the rise in temperature of irrigation water following diversion cause a significant problem for aquatic life?

No measurable effect on the aquatic organisms was detected in the data as a result of high temperatures in Bear Creek. The methods of in situ measurement, however, are not necessarily sensitive enough to detect all effects on aquatic organisms.

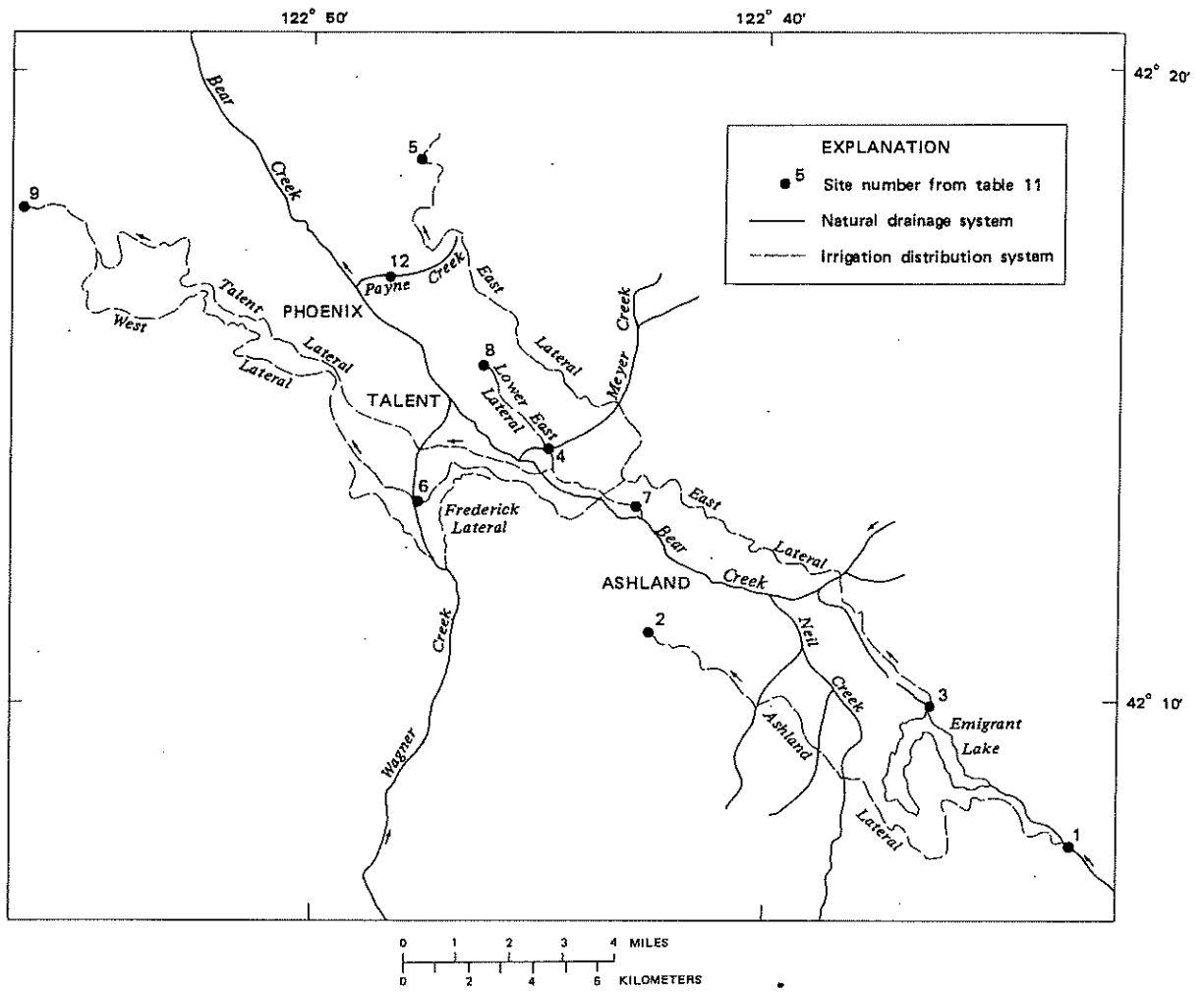


Figure 14.—Talent Irrigation District.

Table 12.—Quality characteristics of water diverted for irrigation and water leaving the Bear Creek basin, May-September 1976
 [Water-quality concentrations are discharge-weighted means]

No.	Site Name	Dis- charge (ft ³ /s)	Milligrams per liter				Fecal coliform Colonies/100 mL	Focal streptococci Colonies/100 mL
			Suspended sediment	Dissolved solids	Dissolved nitrate as N	Ortho- phosphate as P		
Irrigation diversions								
1	Ashland Lateral near Ashland	26	12	54	0.08	0.01	10	75
3	East Lateral at Emigrant Gap near Ashland	115	11	84	.09	.02	8	35
7	Talent Lateral near Ashland	28	18	118	.08	.05	900	1,700
10	Medford Irrigation District Canal at Bradshaw Drop	41	30	68	.06	.05	810	740
18	Rogue River Valley Canal at Bradshaw Drop near Brownsboro	15	32	69	.06	.07	700	1,100
19	Dry Creek downstream from Agate Reservoir	22	9.8	87	.05	.04	20	42
Total diversions		247						
	Concentration (mg/L)	--	16	81	.08	.03	290	410
	Load (tons/d)	--	11	54	.05	.02	$\frac{1}{1.8} \times 10^{12}$	$\frac{1}{2.5} \times 10^{12}$
Water leaving Bear Creek basin								
106	Bear Creek at Kirtland Road	150	--	--	--	--	--	--
	Concentration	--	39	144	.66	.26	1,200	2,200
	Load (tons/d)	--	16	58	.27	.11	$\frac{1}{4.4} \times 10^{12}$	$\frac{1}{8.0} \times 10^{12}$

$\frac{1}{}$ Colonies per day.

Presented to:

DEPARTMENT OF ENVIRONMENTAL QUALITY

June 15, 1989

CITY OF ASHLAND

DRAFT PROGRAM PLAN
for
IMPROVEMENTS TO THE
WASTEWATER TREATMENT PLANT
DISCHARGE INTO BEAR CREEK

APRIL 1, 1989

BROWN AND CALDWELL
CONSULTING ENGINEERS **BC**

Adopted by Ashland City Council April 4, 1989

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CITY OF ASHLAND
PROGRAM PLAN FOR IMPROVEMENTS TO
THE WASTEWATER TREATMENT PLANT
DISCHARGE INTO BEAR CREEK

For the last two years, the Oregon Department of Environmental Quality (DEQ) has conducted an intensive sampling program and study of Bear Creek. It is one of ten, top-priority streams in the state deemed "water quality limited." These are streams that do not meet state water quality standards, and that could not meet these standards with conventional secondary waste treatment.

The Federal Clean Water Act, Section 303, requires creation of total maximum daily loads (TMDLs) for these streams and the DEQ has taken on the responsibility of establishing them. A TMDL is the greatest amount of a given pollutant which can be naturally assimilated by a stream without violating water quality standards. To establish TMDLs, the DEQ uses data gathered during their intensive field investigations and laboratory experiments.

A computer model is typically used to evaluate data and determine a stream's assimilative capacity. Once established, TMDLs are used to set waste load allocations (WLAs) and load allocations (LAs). The WLA is that portion of the TMDL allocated to a point source such as a wastewater treatment plant (WWTP) and the LA is allocated to background and nonpoint sources such as storm runoff.

PROBLEM ASSESSMENT

In Bear Creek, the DEQ found that dissolved oxygen (DO) and pH water quality standards are not being met. Excessive biochemical oxygen demand (BOD) and algal growth cause these problems. DEQ data show that phosphorous is the principal nutrient stimulating the growth of nuisance algae. In addition, ammonia-nitrogen is of concern to DEQ because at high concentrations it can be toxic to fish. As a result, the DEQ proposed TMDLs and WLAs for BOD, phosphorous, and ammonia-nitrogen.

WLAs proposed for the wastewater treatment plant are stringent enough to require extensive improvements in Ashland's treatment and disposal systems. These improvements will be mandated by the Environmental Quality Commission (EQC), and must be completed within a defined time frame, or compliance schedule. Obviously, a great deal of time for investigation, planning, and implementation will be needed for such a task.

The City of Ashland is committed to doing whatever is necessary to improve its wastewater treatment plant to achieve reasonable water quality standards in Bear Creek. It is the purpose of this program plan to outline the city's intended method for selecting an alternative for their plant which will achieve the intended water quality goals. The plan describes several options available to the city and lists possible criteria and techniques that will be used to evaluate them. Finally, this plan proposes a compliance schedule that will allow the city to complete this project including facility construction within a reasonable time.

Background

To understand the purpose of this program plan, a clear picture of the project's major components is essential. The following sections give a brief history and description of its two major components: Bear Creek and Ashland's wastewater treatment plant.

Bear Creek. Bear Creek has long been an important source of water for the residents of Jackson County. The Rogue River Valley Irrigation District first provided water from Bear Creek to customers in the Agate Desert in 1902. Increases in population and irrigation began to stress Bear Creek Valley's water supplies about 1915 and the creek began to run dry late in the summers.

With assistance from the Bureau of Reclamation, local irrigation districts constructed Hyatt and Howard Prairie Reservoirs around 1925. These were the first major water storage facilities in Jackson County. Canals carry their water to Emigrant Lake and into Bear Creek Valley. Today, the valley imports over half of its water from Klamath Basin.

The upper part of Bear Creek's drainage basin has narrow, mountain canyons. It is situated at the junction of the Cascade Range to the east and the Siskiyou Mountains to the southwest. Bear Creek begins where Emigrant and Neil Creeks join near Ashland, and flows about 30 miles before entering the Rogue River. Bear Creek's drainage basin encompasses about 360 square miles.

Irrigation from Bear Creek supports the high agricultural productivity of Jackson County. Bear Creek also supports several important species of fish including chinook and coho salmon and steelhead. Bear Creek is not a significant trout fishery with most trout being out competed by the salmonid species. Bear Creek's greenway provides recreational opportunities for nearby residents. In addition, the City of Talent uses treated water from Bear Creek for domestic supply.

Bear Creek's flow statistics recorded by the United States Geologic Survey (USGS) recording station in Medford are shown in Table 1. This data was collected from 1921 to 1981. Bear Creek's flow is partly controlled by releases from Emigrant Lake, and partly by numerous irrigation diversions and return flows during the summer. Because of this irrigation, summer flows measured in Medford may not correspond to flows in other parts of the creek. There are currently no flow gauging stations in Bear Creek near Ashland. As Table 1 shows, high flows typically occur in the wet season between December and May, then drop off substantially during the summer. It is important to note that this table includes data prior to construction of upstream dams and that irrigation practices have varied over the years. Currently during the summer the Talent Irrigation District (TID) withdraws about 45 cubic feet per second (cfs) of irrigation water from Bear Creek and the Medford Irrigation District (MID) withdraws about 25 cfs, both above the Medford gauging station. The Rogue River Valley Irrigation District withdraws about 45 cfs just below the gauging station.

Table 1. Monthly and Annual Mean Discharge
in Bear Creek at Medford

Month	Minimum, cfs	Maximum, cfs	Mean, cfs	Standard deviation, cfs	Coefficient of variation	Percent of annual runoff
October	4.7	216	33	32	.98	2.4
November	8.2	246	59	50	.85	4.3
December	17.0	1,137	147	195	1.33	10.7
January	13.0	1,080	221	238	1.08	16.0
February	12.0	873	223	194	.87	16.2
March	14.0	787	202	163	.81	14.7
April	4.9	686	197	133	.68	14.3
May	1.5	391	134	99	.74	9.7
June	2.1	232	73	55	.75	5.3
July	.5	95	29	23	.78	2.1
August	.4	115	29	27	.93	2.1
September	.7	92	31	27	.85	2.3
Average annual	8.4	304	114	75	.66	100.0

Note: Data accumulated by USGS from 1921 through 1981. Minimum and maximum values are extreme for entire period of record.

In 1987 and 1988, record low rainfalls depleted flows in Bear Creek well below average. Average monthly flows exceeded 60 cubic feet per second (cfs) only once in 1988. Only three times in 30 years of record was an annual rainfall recorded lower than the 1988 total of 13.7 inches and 1988 was the fifth consecutive year of below-average rainfall. In 1988, the DEQ measured flows lower than 10 cfs in Bear Creek above Ashland. These measurements were made in the fall after irrigation releases from Emigrant Lake were stopped but before winter rains began. In order to design treatment plant improvements that achieve the desired water quality objectives, Bear Creek's statistical flow patterns at Ashland will need to be thoroughly understood.

Ashland's Wastewater Treatment Plant. Ashland's sewer system was first constructed in 1906. In 1934, the city completed the first phase of the wastewater treatment plant. It had one trickling filter, an Imhoff tank, and a series of sludge drying beds. The plant discharges treated effluent into Ashland Creek about 1/2 mile above its confluence with Bear Creek. The treatment plant was upgraded over the years; its last major expansion was in 1975. The plant now has primary clarifiers, activated sludge, secondary treatment, aerobic and anaerobic sludge digestion, and effluent chlorination.

The plant is well maintained and does not exceed its current seasonal BOD and suspended solids discharge limits of 30 milligrams per liter (mg/l) in winter and 20 mg/l in summer. The plant was designed to meet these criteria with an average dry-weather flow of 3.1 million gallons per day (mgd) and a BOD influent load of 4,700 pounds per day (ppd). The plant can handle peak wet-weather flows of 9.3 mgd. During the summer, the plant discharges 150 to 300 ppd of BOD, 75 to 150 ppd of phosphorous, and 50 to 250 ppd of ammonia-nitrogen.

Water Quality Issues and Waste Load Allocations

Bear Creek's principal water quality characteristics driving the TMDL issue is dissolved oxygen (DO). A stringent, 95-percent DO saturation requirement was established to protect the spawning, incubation, hatching, and fry stages of salmon and steelhead growth. No other beneficial uses require a DO criterion so stringent.

Violations of this standard are common in Bear Creek during summer low-flow periods. These violations are caused primarily by biological oxidation of carbonaceous and nitrogenous BOD, and by algal respiration at night when algal photosynthetic activity stops replenishing the stream's oxygen. The DEQ found the lowest DO concentration at the Valley View Road sampling site just below Ashland's treatment plant. The DEQ's study confirms the findings of previous studies: during low-flow conditions, Ashland's plant contributes over 80 percent of the BOD and phosphorous found at

the point where plant effluent enters Bear Creek. Phosphorous is significant because it stimulates the growth of algae, and respiring algae consume the stream's DO.

BOD Waste Load Allocations. Proposed waste load allocations for Ashland's treatment plant are based on the Oregon Administrative Rules' Minimum Design Criteria for Treatment for Control of Wastes, OAR 340-41-375(1) (c). These rules define the amount of dilution necessary to assimilate oxygen demand from a point source. The rule states that the effluent's oxygen demand concentration divided by the dilution ratio shall not be greater than one. Total oxygen demand includes both carbonaceous and nitrogenous demands. Tables 2 and 3 present the DEQ's proposed, flow-based, waste load allocations for Ashland's plant.

Table 2. WLA for Total BOD from the Ashland Plant During the Irrigation Season and Low-Flow Conditions in Bear Creek

Stream flow	Waste load allocation for total oxygen demand from the Ashland plant, pounds per day	
	Based on dilution criteria	Based on Bear Creek reaeration capacity
Below 10 cfs (5 cfs)	27	39
10 to 30 cfs	54	90
30 to 60 cfs	160	294
Greater than 60 cfs	320	599

Table 3. WLA for Total BOD from the Ashland Plant for Wet Weather Conditions in Bear Creek

Stream flow	Total oxygen demand from the Ashland plant, pounds per day
Below 70 cfs (30 cfs)	160
70 to 150 cfs	375
150 to 300 cfs	800
Greater than 300 cfs	1,610

The WLAs in the first column of Table 2 and in Table 3 were calculated with the general dilution rule and do not take into account the specific characteristics and assimilative capacity of Bear Creek. After preliminary evaluation of the reaeration

capability of the stream, the DEQ observed that the WLAs in column 2 of Table 2 may more accurately represent Bear Creek's true capacity. It should be noted that without the backwater areas created by the low dams on the creek, the reaeration capability of the stream may be even greater.

The assimilative capacity of a stream varies with temperature. Temperatures in Bear Creek range from above 25 degrees Centigrade during July and August to below 8 degrees Centigrade in December. Ammonia may decay half as fast in December as in August. Additionally, more oxygen is available in the water at colder temperatures; assimilation would therefore be greater in December than August.

It is possible that the TMDLs and associated allocations could be higher during cold months than in warm months. The DEQ is further evaluating data to assess water quality impacts on Bear Creek during the winter. After accounting for the greater assimilative capacity of the stream during wet weather, it is reasonable to expect an increase in wet-weather WLAs of similar order as seen in low-flow WLAs (column 1 versus column 2 of Table 2). The city will evaluate alternatives which can meet both WLA levels (based on the dilution criteria and the in-stream reaeration criteria) in order to assess the cost-effectiveness of the more stringent levels.

Phosphorous Waste Load Allocation. Ashland's wastewater treatment plant is the major source of phosphorus in Bear Creek. Other significant sources include return flows from irrigation, log pond effluent, and urban runoff. Increased nutrient levels expand the biomass of periphyton resulting in wide diurnal fluctuations of dissolved oxygen and persistent pH violations. In DEQ's laboratory assay, removal of treatment plant effluent cut the potential for algal growth in half.

Based on this evaluation of background characteristics, the DEQ proposed a WLA that reduces Bear Creek's in-stream concentration of phosphorous to not more than 80 micrograms per liter (ug/l) during the May-through-October low-flow period. In winter, cold temperatures, low sunlight, and other physical environmental features limit periphyton growth to such an extent that pH violations are not observed. Thus, a phosphorous WLA is necessary only in summer. Based on Ashland's plant design flow of 3.1 mgd and an effluent concentration of 80 ug/l, the summer WLA is 2.1 ppd. This is about 2 percent of the phosphorous now discharged from the plant.

Ammonia-Nitrogen Waste Load Allocations. The DEQ found that ammonia-nitrogen from the Ashland wastewater treatment plant occasionally increases ammonia concentrations in Bear Creek above chronic toxicity levels. The USGS had similar findings in their 1980 study. Ammonia reductions in the wastewater necessary to achieve the BOD loads discussed above will prevent ammonia

toxicity. Nonetheless, DEQ is proposing in-stream ammonia-nitrogen criteria of 0.25 mg/l during the summer and 1.0 mg/l during the winter.

Chlorine. The DEQ has estimated that chlorine loads discharged from the plant may exceed acute toxicity levels in Bear Creek. Bio-assays conducted by the DEQ on Ashland's effluent resulted in high toxicity levels. There is some concern that these assays were skewed by chlorine toxicity. This program plan allows time early in the project to assess effluent toxicity and provides for future evaluation of plant improvements so that chlorine toxicity can be eliminated.

Effort Required to Attain Waste Load Allocations

The effort required by Ashland to attain the WLAs will be significant. In order to continue discharging year-round into Bear Creek, the plant would have to polish its effluent to about 1 mg/l of BOD and 0.08 mg/l of phosphorous during low-flow periods. These levels cannot be consistently achieved without sophisticated technology that is beyond the realm of common tertiary wastewater treatment.

These proposed WLAs will, in effect, require Ashland either to construct advanced wastewater treatment facilities, or to stop discharging effluent into the creek during low-flow periods and either store it, use it for irrigation, or transport it for treatment at Medford's plant. Other alternatives, which alone would not solve the problem but could help meet water quality standards, would be to augment Bear Creek's flow with a pure water supply and to ban phosphate detergents. In-stream programs that could improve water quality include removal of low dams to enhance natural reaeration, harvest of periphyton and macrophyte growth, and artificial stream reaeration through mechanical aeration, air, or oxygen diffusion. A practicable solution will likely combine two or more of the above options.

Selection of a solution depends on the WLAs ultimately approved by the EQC. City officials believe there is sufficient justification to request that the EQC base WLAs on measured assimilative capacity rather than on the dilution rule. The dilution rule is a general, conservative guide that assures adequate protection when actual in-stream data is not available. The WLAs in Table 4 are based on real, in-stream data and investigations, and reflect the true assimilative capacity of the stream. The city contends that basing TMDLs on real data was the intent of Congress when it established the requirement.

In addition, during low-flow years such as 1988 when winter flows consistently measured 30 to 60 cfs, dilution-based WLAs would require treatment to a level between 2 and 6 mg/l of BOD, depending on wastewater flow. This would require sophisticated treatment beyond the limits of common tertiary wastewater

treatment. WLAs based on Bear Creek's actual assimilative capacity would permit effluent BOD concentrations between 4 and 11 mg/l. These levels could be achieved with typical tertiary treatment technology, and might be achieved with high-level secondary treatment combined with some peak-flow storage.

In summary, WLAs based on measured assimilative capacity more accurately reflect Bear Creek's in-stream conditions and would permit the use of reasonable technologies to achieve effluent quality goals during low-flow periods.

INSTITUTIONAL DESCRIPTION

Coordination and assistance from many governmental agencies and numerous institutional approvals, agreements, and permits will be required to complete this project. Time frames for coordinating with agencies will vary from 6 months to 18 months depending on the complexity of individual agency review or approval required. The following sections describe those agencies and discuss financing options for the project.

Environmental Quality Commission (EQC)

The program plans for Ashland and other affected agencies will be approved by the EQC. They also will establish and approve TMDLs and WLAs.

Department of Environmental Quality (DEQ)

All studies and recommendations to the Environmental Quality Commission for final TMDLs and WLAs will be by DEQ who are acting as agents for the U.S. Environmental Protection Agency (EPA).

Rogue Valley Council of Governments (RVCOG)

The RVCOG has been retained by DEQ for the TMDL process as liaison between DEQ and the affected individuals or agencies. Overall TMDL recommendations and review will be through the RVCOG Water Quality Advisory Committee (WQAC). The WQAC has representatives of:

- Jackson County Stockman's Association
- Ashland/Pinehurst Citizen's Advisory Committee
- Rogue River Valley Irrigation District
- Jackson County Commission
- US Forest Service
- Sierra Club
- DEQ
- State Fish & Wildlife
- Jackson Soil & Water Conservation District
- Talent Irrigation District

- Bear Creek Valley Sanitary Authority
- OSU Extension Service
- Audubon Society
- City of Medford Public Works Department
- Jackson County Board of Health
- Rogue Fly Fishers
- Jackson County Parks Department
- City of Ashland Public Works Department
- U.S. Bureau of Land Management
- Jackson County Health Department

Talent Irrigation District (TID)

Under one alternative, contractual agreements would have to be made between TID and Ashland to allow Ashland to discharge directly to TID irrigation canals. This could involve pilot studies and public hearings. Because of the interconnection with the Medford Irrigation District, agreements could be required with MID as well.

Bear Creek Valley Sanitary Authority (BCVSA) and City of Medford

The option of discharging to the Medford wastewater treatment plant would require agreements with BCVSA and the City of Medford for use of their respective facilities.

Jackson County

Any projects constructed outside of the city limits would require conformance with the county comprehensive plan, appropriate zoning, and other requirements.

US Bureau of Reclamation

If selected projects involve changes in operation of Howard Prairie or Hyatt Reservoirs, agreements could be required with the U.S. Bureau of Reclamation.

City of Talent

The intake for the City of Talent's water supply is from Bear Creek below the discharge point of Ashland's wastewater treatment plant. Potential concurrence or agreements with Talent may be required depending on the selected option.

City of Ashland

If projects within the city limits are selected, they would have to conform to the city comprehensive plan, zoning ordinances, and other requirements.

Department of Water Resources

Any alternative which alters the flows in Bear Creek would require approval from the Department of Water Resources. Modification to any agency's water rights would also require approval. Simply removing wastewater from Bear Creek would likely not require approval.

Department of Fish and Wildlife

Any alternative which requires in-stream modifications to Bear Creek altering fish habitat would require approval of the Department of Fish and Wildlife.

Funding Sources

The City of Ashland will explore all available sources of funds to finance this project. Likely sources would be general obligation bonds, revenue bonds supported by increased rates, state revolving loan funds, and other possible grants and funds.

OPTIONS FOR CONSIDERATION

This section describes several ways to achieve the proposed WLAs. It identifies major technical problems or questions; the regulatory agencies, governmental bodies, and private groups involved; and each option's key implementation steps.

City-Operated Effluent Irrigation

Irrigation is one way to dispose of treatment plant effluent when discharge to surface waters is restricted. The DEQ views irrigation as a "beneficial use" of effluent. They authorize application rates based on soil conditions, crops, and weather patterns. They allow no ponding or surface runoff. Wastewater application must not exceed the agronomic uptake limit of the receiving crop. The wastewater nutrient that usually limits agricultural irrigation is nitrogen. Oregon State University's Cooperative Extension Service specifies nitrogen limits for many crops.

The level of treatment at Ashland's plant would determine to what crops effluent may be applied. According to DEQ regulations, effluent from Ashland's current secondary treatment and disinfection systems could be applied to pastures, hay fields, and selected lands where food not destined for the fresh produce market is grown.

In the past, the DEQ permitted effluent irrigation of golf courses, city parks, and open spaces. These are often irrigated in the evenings to avoid contact with the public. The DEQ has

established disinfection requirements for irrigated effluent and sometimes requires a final flush of the system with potable water.

This option would use effluent to irrigate city-owned property or leased private property, or sell pumped effluent to private users. A common element here is that the city would provide and maintain the pumping and distribution equipment, and would maintain some control over the irrigation schedule.

Technical Constraints. We foresee no technical problems that would eliminate irrigation from consideration. The numerous precedents should enhance its public acceptance. The major problem would be to find enough acceptable land close to the treatment plant. The city must either own the land or acquire long-term, effluent disposal contracts with private landowners. If the city could not rely on property owners to accept effluent, the reliability of this option would be severely compromised.

This alternative probably would not require pilot studies or long-term evaluations. However, finding suitable irrigation sites would likely require a considerable amount of time. If the city considered purchasing additional land for irrigation, evaluation of this option would take still longer.

Agency Interaction. To begin effluent irrigation, the city must acquire a Water Pollution Control Facilities (WPCF) permit from the DEQ. Land purchases for storage lagoons outside the city would require interactions with Jackson County and the Rogue Valley Council of Governments (RVCOG).

Steps for Implementation. The steps necessary to pursue city-operated effluent irrigation would be to:

- Forecast effluent volumes during the summer months when WLAs would be more restrictive.
- Determine what regulations would limit effluent irrigation.
- Identify city-owned sites available for effluent irrigation: parks, golf courses, and open spaces.
- Identify private property available for effluent irrigation, such as nurseries and hay fields.
- Calculate what size storage lagoon would be required to enable effluent flow to match demand for irrigation.
- Select a site for the effluent storage lagoon.
- Establish groundwater monitoring requirements.

- Conduct a public information program.
- Obtain a WPCF permit from the DEQ. The permit application would provide for the protection of ground and surface water supplies, include a wastewater management plan, and assure land-use compatibility.
- Negotiate formal agreements with private landowners for effluent disposal. Agreements might include land acquisition, leases, or effluent sales provisions.
- Finance the design and construction of the facilities.
- Acquire pipeline rights-of-way, if required.
- Obtain a permit to construct the lagoon from the Army Corps of Engineers.
- Design and construct the storage lagoon, pumping facilities, and piping.

Effluent Utilization in the Talent Irrigation District

Ashland's wastewater treatment plant discharges into Ashland Creek about 1/2 mile above Bear Creek. The average flow from the plant is approximately 3 cfs. About 1 mile upstream of Ashland Creek, from mid-April to mid-October, the Talent Irrigation District (TID) withdraws between 40 and 50 cfs of water from Bear Creek. Ashland's treated effluent could be pumped into the TID canal carrying this irrigation water. The TID canal that would receive Ashland's effluent irrigates about 4,000 acres of agricultural land plus municipal parks in Talent and Phoenix.

This alternative may offer an opportunity to supplement the water the TID receives through Emigrant Lake with treatment plant effluent. The TID could exchange water from its reservoir allotment for an equal volume of effluent. This arrangement would offer several advantages.

First, the plant's effluent would not flow into Bear Creek during low-flow, summer months when excessive nutrient loads cause a problem. Just 3 cfs of fresh water from Emigrant Lake during low-flow periods could significantly improve Bear Creek's water quality.

Second, the 40-to-50-cfs TID allocation would highly dilute Ashland's effluent. Below TID's diversion, Bear Creek's flow is now principally plant effluent. The Medford Irrigation District withdraws the water-effluent mixture from this stretch of the creek, and insufficient dilution causes high levels of nitrates and phosphates in the MID Canal.

Finally, some TID members would like to irrigate earlier than mid-April when TID begins releasing flows from Emmigrant Lake. Treatment plant effluent is available all year and, in part, could meet this demand.

Any strategy must provide for effluent storage during periods of no irrigation. The TID canal might afford adequate storage capacity. If not, then a separate effluent storage lagoon would need to be constructed.

Technical Constraints. The effects of effluent irrigation on crops in the TID would need to be evaluated. The Medford Irrigation District now uses effluent from Bear Creek, and this irrigation could be evaluated to assess possible impacts. Irrigation equipment now used by TID members should be evaluated to determine if spraying effluent would result in excessive clogging. These concerns could be addressed by conducting a full scale field test where treated effluent is pumped into the TID channel using temporary pumping facilities.

Agency Interaction. Both the TID and DEQ must agree that this is a worthwhile option. Negotiations with these agencies could be lengthy. The city would also need a WPCF permit. The Bureau of Reclamation and the Department of Water Resources might become involved if the TID's water rights or allocations needed modification. It would be necessary to involve the cities of Talent and Phoenix because they would use TID water to irrigate parks. The RVCOG and Jackson County would also be involved in reviewing the proposal.

Steps for Implementation. To pursue this option, Ashland should:

- Begin negotiations with the TID.
- Assess regulations that limit irrigation with treatment plant effluent.
- Meet with the Bureau of Reclamation and Department of Water Resources.
- Evaluate the need for effluent storage.
- Select a site for the storage lagoon.
- Conduct a public information program.
- Finance the design and construction of improvements, if needed.
- Purchase a site for storage lagoons and acquire pipeline rights-of-way.

- Obtain a permit to construct the lagoon from the Army Corps of Engineers.
- Design and construct the effluent pumping station, force main, and the storage lagoon.

Flow Augmentation to Bear Creek

As early as 1965, the Public Health Service and the Bureau of Reclamation suggested that Bear Creek's water degradation problems could be relieved by increasing the creek's dry-weather flows. Waters from Howard Prairie Lake and Hyatt Reservoir flow through canals and streams to Emigrant Lake, then to Bear Creek. Importing more water from Klamath Basin would require a higher allocation from these impoundments.

The DEQ advanced this idea in 1985 when it suggested that a 125-cfs flush would be beneficial. The Department of Water Resources soundly rejected the concept. It also rejected a later attempt to appropriate just 1 additional cfs into Bear Creek.

The City of Ashland is currently considering a new dam in Ashland Canyon upstream of the existing dam. This new impoundment would be used as a drinking water source but could also be a source of flow augmentation to Bear Creek. An engineering study of this proposed impoundment will be completed in summer of 1989.

Technical Constraints. The ability of the waterways to carry additional flow from the Klamath Basin must be determined. The availability of additional water will certainly be an issue.

Agency Interaction. This option may involve negotiations with the Bureau of Water Resources, the Bureau of Reclamation, the Division of State Lands, Department Fish and Wildlife, the DEQ, Jackson County, the TID, and possibly other irrigation districts.

Steps for Implementation. The steps needed to carry out this option would be to:

- Negotiate with the Department of Water Resources for additional water rights.
- Meet with all other agencies mentioned in the paragraph about Agency Interaction.
- Conduct a public hearing.
- Monitor the effects of increased flows in Bear Creek.

Transport Effluent to Medford's Treatment Plant

In this option, treated or untreated wastewater would be transported approximately 20 miles north to Medford's treatment plant. The Bear Creek Valley Sanitary Authority (BCVSA) collection system already exists. It serves Talent and Phoenix, and ends north of Ashland's city limits. This pipe was not sized to include Ashland's wastewater. But it might be possible to store Ashland's wastewater in the daytime, then use this pipeline to convey some or all of it to Medford during the night when flows from Talent and Phoenix subside.

It is probable that the 30-inch BCVSA interceptor between Medford and Phoenix is large enough to accommodate Ashland's flow. A hydraulic evaluation will need to be done to verify its capacity. If this pipe were extended approximately 6 miles from Phoenix to Ashland, it may be possible to transport Ashland's flow to Medford by gravity. Pumping stations could be necessary, however, depending on the pipeline route.

If wastewater was piped to Medford, Ashland's treatment plant would not need to operate. It could be used, however, to pretreat wastewater before sending it on to Medford.

Technical Constraints. Medford's treatment plant is a sophisticated, well-operated facility. Due to its size, it has more flexibility and with certain modifications could probably do a good job of treating wastewater from Ashland. The DEQ is now reviewing Medford's WLAs for the Rogue River. Medford may need to use summer land irrigation to help meet its allocations. Adding wastewater from Ashland would necessitate modifications to Medford's WLAs and may merely shift the irrigation requirement down stream. Whether Medford's plant could easily handle the increased flow cannot be determined until the DEQ sets discharge limits for that portion of the Rogue River.

Agency Coordination. Due to the size of this project, many local and state agencies would be involved: the Bear Creek Valley Sanitary Authority, Jackson County, the DEQ, Department Fish and Wildlife, the Department of Water Resources, the Medford Irrigation District, and the cities of Talent, Phoenix, and Medford and the RVCOG.

Steps for Implementation. This option would require Ashland to:

- Negotiate with Medford to receive Ashland's wastewater.
- Work with the DEQ to set new WLAs for Medford's treatment plant.

- Help Medford calculate its current treatment capacity and decide what modifications it would need to accept Ashland's wastewater and meet effluent allocations.
- Coordinate effluent removal from Bear Creek with state Fish and Wildlife, the Department of Water Resources, and local irrigation districts.
- Conduct a public hearing.
- Finance the improvements.
- Design a system to convey wastewater to Medford. Medford would design improvements needed for the plant.
- Obtain land and pipeline rights-of-way.
- Construct the pipeline while Medford makes any needed plant improvements.

Ban Phosphate Detergents

Phosphorus has been identified by DEQ as a prime cause of Bear Creek algae growth and resultant oxygen depletion. Once it is in the wastewater, phosphorus can be removed with advanced biological or chemical treatment processes. Another possibility is to keep as much phosphorus as possible out of wastewater by banning phosphate detergents.

The Great Lakes states, portions of Montana, and states on the Chesapeake Bay have successfully banned phosphate detergents. Virginia's ban reduced phosphorus discharges from its treatment plants by 50 percent. A similar program in Wisconsin resulted in a 35 percent reduction.

Simply banning phosphate detergents would not alone solve the water quality problem due to the extremely low effluent concentrations required. Ashland would still need additional in-plant treatment to meet the phosphorus WLA. Reducing the amount of in-coming phosphorus, however, could also reduce the cost of phosphorus removal from the treatment facilities.

Technical Constraints. Imposing a phosphate ban would pose no major technical constraints. How much a ban would reduce phosphorus in the plant's influent, however, is uncertain. Following a ban, influent monitoring would define the amount of additional phosphorus removal needed.

Agency Interaction. A phosphate detergent ban probably would not require coordination with any agencies outside the city.

Steps for Implementation. A phosphate ban would require Ashland to:

- Draft an ordinance that bans phosphate detergents.
- Conduct public hearings.
- Administer the phosphate ban.
- Monitor influent phosphorus levels at the treatment plant.

In-Stream Improvements

Various in-stream improvements could be used to improve Bear Creek water quality. Some of these alternatives include:

- Removal of low dams to enhance natural reaeration.
- Harvest of periphyton and macrophyte growth.
- Artificial stream reaeration using mechanical aeration or air/oxygen diffusion.

The purpose of these alternatives would be to increase stream DO. The extent of the improvement is unknown.

Technical Constraints. There are no main technical constraints to dam removal or artificial stream aeration. However, dam removal would require alternate means of diverting water for irrigation. Harvesting of macrophytes has been done successfully in lakes but would pose difficult problems in streams. Artificial aeration could have significant impact at the point of improvement but the ability to maintain higher DO downstream is limited.

Agency Interaction. These alternatives would require close coordination with numerous agencies including DEQ, Talent Irrigation District and Department of Fish and Wildlife.

Steps for Implementation. These alternatives would require Ashland to:

- Investigate impacts of improvements.
- Negotiate agreements with impacted agency.
- Obtain necessary permits.
- Design and construct improvements.

Advanced Wastewater Treatment

The winter and summer WLAs anticipated for BOD and phosphorus were presented at the beginning of this program plan. If wastewater is not transported to Medford, then it is likely that some level of additional treatment would be required at Ashland. If summer irrigation is used, then winter allocations would drive the selection of needed process improvements.

There are several advanced treatment alternatives that could help Ashland reach the new allocations. Based on the final requirements stipulated by DEQ, the city could use one or a combination of the following:

- An anaerobic/aerobic biological nutrient removal system could be used to decrease ammonia nitrogen to a level of about 1.0 mg/l and phosphorus to a range of 1 to 3 mg/l. This process essentially modifies the activated sludge process so that a portion of the flow becomes anaerobic where bacteria remove phosphorus in a process called "luxury uptake." It is then passed into the main aerobic basins to enhance BOD removal.
- A conventional nitrifying activated sludge treatment process followed by chemical phosphorus removal could be used. Typically, alum is used to chemically tie up and settle out the phosphorus. Effluent levels of about 1 mg/l ammonia and phosphorus can be achieved with this process. For complete summer discharge, much higher levels of phosphorus removal are required.
- Only two-stage high-lime treatment has been shown to attain phosphorus levels in the range required by the WLA. This process requires addition of high doses of lime to nitrified secondary effluent followed by effluent filtration. This process is uncommon and is currently used in only one plant in this country to achieve phosphorus levels in the range required for Bear Creek. The process generates large quantities of sludge and would need to be pilot tested before selecting it as a final alternative.

Technical Constraints. BOD and nutrient removal technologies have been proven in treatment plants across the country. However, removal of phosphorus to below 0.1 mg/l is unproven. For this reason, pilot tests should be conducted before selecting this alternative.

Agency Interaction. The DEQ would be the principal agency approving an advanced treatment alternative. The high-lime option would generate significant amounts of sludge that require disposal. This might require involvement with Jackson County.

Steps for Implementation. Selecting advanced treatment would require Ashland to:

- Conduct any pilot tests needed.
- Finance the design and construction of improvements.
- Purchase additional land if needed.
- Design plant improvements.
- Construct the improvements.
- Start the new treatment facilities.

DEFINITION OF THE SELECTION CRITERIA

The list of alternatives available to the city is long and technically diverse. To make an evaluation and selection of the best alternative manageable, the list of options must be reduced to a few that are the most promising. It is important to screen out those options which for one or more reasons would be nearly impossible to implement. For this task, a series of pass/fail criteria will be developed. Each alternative is judged in light of each pass/fail criterion. Those that fail any one criterion are eliminated from further scrutiny while those that pass are retained for further in-depth evaluation.

The following is a preliminary list of pass/fail criteria. Prior to alternative screening, a brainstorming session will be held to add other criteria and finalize the list.

- Will the alternative attain the required treatment limits?
- Is the alternative technically feasible?
- Can the city maintain the necessary degree of control with this alternative?
- Is it a long-term solution or an appropriate interim solution?
- Is the alternative legal and likely to remain legal?
- Is the alternative acceptable to other participating agencies?
- Does the total cost of the alternative compare favorably with other alternatives?

EVALUATION OF ALTERNATIVES

This section describes the strategies that will be used and the effort necessary to evaluate the technical merits and cost/benefit relationships of options selected for review. The effort required for evaluation will, to a certain extent, depend on the alternatives that remain after application of the pass/fail criteria described above. All remaining options, however, will require:

- Selection of appropriate evaluation criteria.
- Collection of detailed background information.
- Development of detailed design schematics and data.
- Thorough cost analysis.
- A careful assessment of benefits.
- An evaluation of staging capabilities and ultimate capacity of the alternative.
- A detailed assessment of suitability based on reasonable evaluation criteria.

The following sections discuss each of these evaluation steps.

Select Evaluation Criteria

Selection of the evaluation criteria is a necessary first step to the alternative selection process. The criteria define the background information which must be collected and the level of detail to which each alternative must be defined. The city will develop these criteria during an initial brainstorming session. The city proposes a preliminary list of evaluation criteria following standard facilities planning format as follows:

- Capital, operation, and maintenance costs
- Reliability
- Implementability
- Flexibility
- Adverse and beneficial environmental impacts

Reliability includes such considerations as demonstrated long term performance under a complete range of flow and load conditions. It also involves the ability of the city to have control over the effluent disposal system. As an example, with effluent irrigation the city must own the irrigation site or have a long term agreement with a duly constituted agency such as the

Talent Irrigation District. A system that depended solely on one or two private landowners to accept effluent is inherently unreliable because sudden changes in that landowner's situation could lead to loss of the disposal site.

Implementability refers to considerations such as public acceptability and availability of land. In addition it involves institutional constraints such as whether agreements can be reached or necessary permits can be obtained.

Flexibility refers to the ability of the selected option or combination of options to change or expand with changing conditions. Important considerations include whether the system can respond to extremes in stream conditions and whether it can be expanded for further growth.

Any of the alternatives will have both adverse and beneficial environmental impacts. Of course the major beneficial impact common to all acceptable alternatives will be the intended improvement in water quality. However, specific alternatives, will have unique impacts. Advanced treatment at the WWTP may generate a sludge disposal problem and use large amounts of energy and chemicals. In contrast, effluent irrigation may provide the benefit of using the nutrients which are harmful to Bear Creek for their fertilizer value on agricultural crops.

Each alternative will be evaluated and rated with respect to these criteria. The highest rated alternative which does not have some fatal flaw will be selected.

Collect Background Data

The next step in the alternative evaluation process is collection of pertinent background information. This will include needed additional in-stream studies, pilot tests, field investigations, and collecting existing data and information.

In-Stream Studies. The level of in-stream studies to be conducted will be highly dependent on the alternatives selected for evaluation. Many questions remain concerning the Bear Creek data, the answers to which will impact the design of wastewater system improvements. Some of these questions could include:

- Impact of irrigation impoundments on algal growth and reaeration.
- Extent of salmon and steelhead beneficial impacts in response to improved water quality.
- Impact of benthic versus in-stream phosphorous on macrophyte growth.

- Interrelationship between carbonaceous and nitrogenous BOD impacts on the stream.
- Flow statistics for Bear Creek at Ashland.
- Impact of winter physical conditions on stream assimilative capacity.

The city will look to DEQ to assist in resolution of these issues.

Pilot Tests. Pilot tests would be required only if a sophisticated unproven technology were being given final consideration. High-lime phosphorus removal would require pilot work. Pilot tests and demonstration projects would be conducted to more reliably predict long-term performance and system costs. These tests would not be conducted until after thorough preliminary evaluation indicated that the alternative had promise for providing reliable, cost-effective treatment. More intensive in-depth pilot testing may be required to develop design criteria prior to design if such an option were selected.

Field Investigations. Additional field investigations may be needed to collect necessary data. These investigations may include but are not limited to the determination of the following:

- Current effluent phosphorus levels.
- Effluent toxicity levels including chlorine toxicity.
- Flows in Bear Creek at Ashland.

Existing Data. Existing data and information is crucial to the development of each alternative. Flow and load data, environmental data, institutional information, key implementation details, and regulatory acceptability are all important. This information is collected using a number of techniques including:

- Interviews.
- Records searches.
- Literature searches.
- Field inspections.

Define Alternative Schematics and Design Data

Once pertinent data are collected the details of each alternative must be developed. It is essential that this be done in enough detail to be assured that the alternative is technically feasible and that accurate costs can be developed. It is also important in this step that combinations of alternatives are defined and sufficiently detailed. The major step involved include the following:

- Develop process schematics.
- Perform preliminary process calculations sufficient to size system components.
- Develop design data including numbers and sizes of specific pieces of equipment and components.
- Prepare site or route layouts.

Prepare Cost/Benefit Evaluation

The cost/benefit evaluation will be a key factor in selection of an alternative. If after final WLAs are established the only remaining alternatives are unreasonably expensive, the cost/benefit evaluation by federal law can be used as a justification to request relaxation of the effluent requirements to reduce costs. Detailed cost estimates will be prepared for each option including the following:

- Capital costs required to construct and finance the improvements.
- Operational costs such as labor, materials, power, and chemicals.
- Maintenance costs.

These costs will be combined in terms of present worth prior to comparison with other alternatives. For a true cost benefit evaluation indirect costs must also be considered. Indirect costs can include such things as adverse environmental impacts caused by implementing an option.

The benefit side of the equation relates primarily to fulfillment of the purpose of the project, namely improved water quality. Some of the benefits which should be weighed against the costs include:

- Annual improvements in salmon and steelhead runs.
- Decreased water treatment costs downstream.
- Increased Bear Creek recreational opportunities.
- Beneficial use of wastewater nutrients on agricultural land.

Many of these benefits are difficult if not impossible to accurately quantify in monetary terms. The city will look to the Department of Fish and Game to provide guidance in valuating the improvements in fish runs.

Interim Staging and Ultimate System Capacity

An important aspect of the flexibility of each option is its ability to be staged and capability to handle ultimate expected growth in the Ashland service area. The city recognizes that a large, complex, and expensive project cannot happen overnight. A higher rating will be given to alternatives which can be staged over time. This could allow for initial steps to improve water quality while the difficult implementation steps are underway for other aspects of the project. It also would permit consistent improvement in water quality while spreading the costs over time. Staged project development may be easier with combined alternatives which allow for separate implementation paths for each component.

In addition to the ability to be staged, higher ratings will be given to alternatives with the capability to handle development within Ashland. Major capital investments are not warranted in an alternative which could not at least accommodate growth through the next 20 years. Highest ratings will be given alternatives which could handle projected ultimate growth.

Final Alternative Evaluation

In the final step prior to alternative selection, each alternative will be thoroughly evaluated under each criterion. A numerical decision matrix technique will be used to quantitatively compare alternatives. Each criterion will first be given a numerical weight to indicate its importance relative to the other criteria. Then each alternative will be rated under that criterion. The rationale for each rating will be thoroughly described. Finally, the total weighted scores for the alternatives will be added up with the highest totals indicating the best alternative. This alternative will then be recommended to the City Council and go through further evaluation and scrutiny prior to selection and final implementation.

FINAL OPTION SELECTION AND IMPLEMENTATION

Final selection of the option will necessarily take place only after initial implementation steps. Many approvals, permits, and agreements may have to be acquired prior to beginning construction. Each of these steps may be a stumbling block requiring redesign or even selection of a new alternative. Fortunately, a well developed alternative and implementation plan prior to this permitting can assure smooth progress through these steps. Some of the key steps involved in final selection and early implementation include:

- City Council action.
- Institutional agreements.
- EQC approval.
- Army Corps permits.
- Water Resources permits.
- Fish and Wildlife approval.
- County permits.
- State land use approval.

PROGRAM PLAN SCHEDULE

The following schedule is proposed by the city as a guide for implementing a program to meet the new water quality limits on Bear Creek. It includes time for planning, evaluation, and construction of new facilities. Program elements which can be done concurrently are identified and key dates shown. The proposed schedule indicates project completion in 1996.

ASHLAND PROGRAM PLAN
PROJECT SCHEDULE

3-30-89 1989 89 90 91 92 93 94 1994 1995 95 96 1996

EQC APPROVES SCHEDULE

ASHLAND INTERIM NPDES PERMIT MODIFIED

9-28-89 DEVELOP AVAILABLE OPTIONS

11-28-89 DEVELOP AND SELECT PASS/FAIL CRITERIA

12-28-89 APPLY CRITERIA AND SELECT OPTIONS

1-28-90 SELECT EVALUATION CRITERIA

2-28-90 IN-STREAM STUDIES

2-28-90 CHLORINATION STUDY

2-28-90 BENCH-SCALE PILOT TEST

2-28-90 FIELD INVESTIGATIONS

2-28-90 COLLECT EXISTING DATA

2-28-90 SELECT FINANCING METHOD

2-28-91 PROCESS SCHEMATICS

4-28-91 PROCESS CALCULATIONS

4-28-91 SITE AND ROUTE LAYOUTS

6-28-91 DESIGN DATA

7-28-91 CAPITAL AND O&M COSTS

7-28-91 INDIRECT COSTS

7-28-91 DETERMINE AND VALUATE BENEFITS

7-28-91 DETERMINE ENVIRON. IMPACTS

11-28-91 COMPARE COSTS AND BENEFITS

12-28-91 EVALUATE STAGING AND ULTIMATE CAPACITY

2-28-92 WEIGHT EVALUATION CRITERIA

3-28-92 EVALUATE AND RATE ALTERNATIVES

5-28-92 DESCRIBE RECOMMENDED ALTERNATIVE

6-28-92 UPDATE IMPLEMENTATION SCHEDULE

7-28-92 ASHLAND CITY COUNCIL APPROVAL

8-28-92 EQC APPROVAL

9-28-92 NEGOTIATE INSTITUTIONAL AGREEMENTS

9-28-92 OTHER REGULATORY APPROVALS

9-28-92 ACQUIRE PERMITS

3-28-93 ACQUIRE FINANCING

9-24-93 DESIGN NEW FACILITIES

CONSTRUCT NEW FACILITIES 9-24-94 7-23-96

NEW FACILITIES STARTUP

RECEIVED

JUN 19 1989

Water Quality Division
Dept. of Environmental Quality

June 16th, 1989

Mike Osterman
2231 Spring St.
Medford, OR 97504
(503)773-7279

Mr. Baumgartener;

I think that the setting of TMDL's for Bear Creek has been needed for a long time. I'm very glad to see progress being made towards that end. However, I'm somewhat puzzled by the reports I've been hearing on the Medford local news. There seems to be no mention of what I consider the best solution for Ashland's problem of reducing their nutrient impact on Bear Creek.

Yesterday's 6:00 PM Channel 12 news report mentioned two possible solutions Ashland is considering. One they mentioned is irrigation of dry lands using treatment plant effluent. This would, in my opinion, appear at first glance to be the best solution in an area such as this that badly needs and will need even more in the future, low cost irrigation water. However, storage of that water during seasons of non-use would most likely be in the Emigrant Reservoir. This would still require tertiary treatment by the Ashland treatment plant to prevent seasonal algal blooms in Emigrant Lake.

The second solution mentioned was that of that of expanding Ashland's treatment facility to a tertiary treatment facility at a cost of millions of dollars to residents of Ashland who already feel that they are over-taxed, and are expressing opposition.

A third solution which I've not heard the news media mention, and the one which I feel would be best for the environment and residents of Ashland would be to extend an interceptor into the BCVSA system and gravity-flow Ashland's raw wastewater into Medford's regional wastewater treatment plant. This solution would:

- 1) Benefit Bear Creek by eliminating the phosphorus presently discharged by Ashland's treatment plant.
- 2) Allow the treated wastewater to go directly into the Rogue River where a much higher dilution rate exists.
- 3) Eliminate the duplication of efforts by the two treatment facilities, resulting in a rate reduction for citizens of Ashland.
- 4) Provide electricity from what would otherwise be wasted energy and pollution by the break-down of Ashland's solids into methane used as fuel for Medford's cogen. facility.

Engineering firms are good at providing profitable solutions to communities and ignoring those solutions which are low in cost and may be in the best interest of their residents and their environment. Please let me know if you have no channel to pass the solution I've mentioned above on to those who need to be informed about it.

Sincerely,
Mike Osterman
Mike Osterman

F75



JACKSON COUNTY OREGON

COUNTY COURTHOUSE • MEDFORD, OREGON 97501

DEPARTMENT OF PLANNING
AND DEVELOPMENT
Kerry L. Lay, Director
(503) 776-7554

June 15, 1989

Hearings Officer
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204

Environmental Division
Dept. of Environmental Quality

Re: Preliminary Comments, Proposed Criteria, and Procedures for Establishing
Total Maximum Daily Loads (TMDL) for Bear Creek

Jackson County has been active in surface water quality improvement efforts for over ten years. As a member of the Rogue Valley Council of Governments (RVCOG) we supported the original "208" research and participated in grant funded efforts relating to septic tank maintenance, stream bacterial investigations, and passive treatment. When grants were no longer available, the County continued its financial support of a reduced but effective RVCOG basinwide program to reduce non-point source water quality problems.

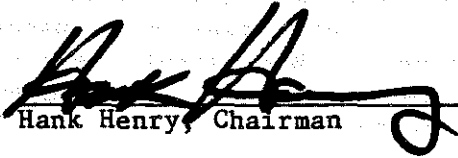
Jackson County recognizes the benefits of continuing this effort by reducing excessive nutrient loads in Bear Creek. However, the following concerns should be noted:

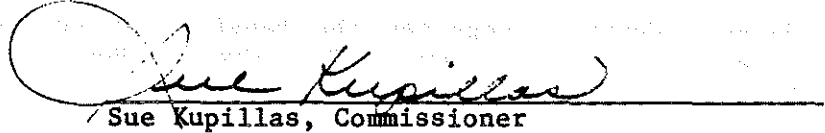
- 1) The impact of the proposed water quality parameters on Jackson County is not clear. The in-stream data and some inflow data show the nature and extent of the nutrient problem, but do not demonstrate how much is due to activities which occur in unincorporated areas, and are not subject to existing regulations. Without further data and study, it is difficult to support or challenge TMDL limits.
- 2) Our staff advises that the proposed criteria needed to achieve and maintain beneficial uses in Bear Creek do not include the natural ability for the creek to absorb nutrients (assimilative capacity). The Department of Environmental Quality should consider further investigation into this cleansing ability so that local discharge limits can be the least restrictive possible.
- 3) The five-year time period for compliance with the rules is extremely short, given the diffuse nature of non-point sources and difficulty of enforcement. We support the time extension, to seven years, requested by the city of Ashland. Furthermore, we recommend that implementation of mandatory control strategies for non-point sources not be considered until point source control benefits have been accomplished.

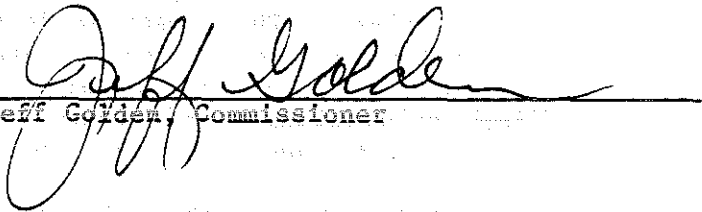
- 4) Jackson County will continue to participate in the TMDL process; however, it is unclear what authority the County has over private land owner activities which contribute to nutrient loadings.
- 5) Ordinances concerning irrigation and other practices which contribute to nutrient loadings from rural lands would be difficult to adopt and very expensive to properly administer. Unlike cities and special districts responsible for water distribution, counties have no legislative mechanism for imposing user fees or otherwise recouping the cost of such code administration. Based on the information we have available at this time, Jackson County would not favor such an approach.

Jackson County appreciates the opportunity to comment on this subject at this time, and we would reserve the opportunity to testify in more detail as additional information becomes available.

JACKSON COUNTY BOARD OF COMMISSIONERS


Hank Henry, Chairman


Sue Kupillas, Commissioner


Jeff Golden, Commissioner

RECEIVED

JUN 23 1989

Water Quality Division
Dept. of Environmental Quality

2948 Fairview Dr.
Medford, OR 97504
June 15, 1989

DEQ
Portland, OR

I'm unable to attend your hearing on the plan to clean up Bear Creek

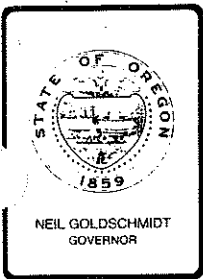
Cris Dittmar and others have devoted much time & effort to do just that, but they need strong help.

Bear Creek, which will be the heart of the Bear Creek Greenway must be cleaned up. I applaud your plan - restoring Bear Creek is long overdue.

You can expect a lot of resistance from agricultural and business interests.

Please do not yield to their pressure. You'll have a lot of support. Stick to your guns!

Sincerely
John P. Brown



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission Date: June 28, 1989

From: Robert P. Baumgartner

Subject: Summary of Response to Comments Received in Rule Making
Hearing on Proposed Rule OAR 340-41-305(1) (Attachment E)

Proposed Bear Creek Total Maximum Daily Load Rule

The testimony can be divided into eight major sections as follows:

1. Phosphorus Criterion
2. Seasonal Limits
3. Final Compliance Date
4. Basin Treatment Criteria--Dilution Rule
5. Date for Submittal of Program Plans From Log Pond Dischargers
6. Tributaries as Conduits of Waste
7. Lack of Enforcement
8. Other Concerns:
 - a. Small communities' difficulties;
 - b. All nonpoint sources are not known;
 - c. Impact of rules on Jackson County not clear;
 - d. Responsible agency for various nonpoint sources is not clear;
 - e. Conveyance of Ashland's wastewater to Medford should be an option;
 - f. Extend the comment period for seven days;
 - g. Instream attenuation;
 - h. Alternative winter BOD; and
 - i. Clean up Bear Creek.

The remainder of this report discusses the concerns by section.

1. PHOSPHORUS CRITERION--Total Phosphorus of 0.10 mg/l (100 µg/l)

Several commenters requested that EPA's suggested criteria of 100 µg/l total phosphorus be adopted rather than the proposed 80 µg/l. Commenters suggested that if the Commission elects to not adopt the 100 µg/l criteria that the Department continue to monitor Bear Creek. When point source compliance is attained, the Department should re-evaluate the proposed criteria and nonpoint source load allocations.

One commenter suggested that the 80 $\mu\text{g}/\text{l}$ be adopted to decrease pollutant levels to the greatest extent possible.

Department's Response:

The request for continued monitoring is reasonable. The Department will continue to monitor Bear Creek but not as intensively as the past year. Additional monitoring information will be used by the Department, point source dischargers, and responsible nonpoint source agencies to continue to review and refine the TMDL and interim allocations.

The Ashland STP is the major nutrient source to Bear Creek. Achieving compliance with the TMDL at Ashland can be expected to have a major positive effect on water quality in Bear Creek. This change in loads justifies a review of instream water quality conditions. However, the Department believes that nonpoint source program and implementation plans will be required to protect the beneficial uses of Bear Creek. Requirements for nonpoint source program plans should not be ignored.

Several alternative concentrations for phosphorus were reviewed. These alternatives are discussed on page five of the initial Bear Creek staff report. The Department felt that the 100 $\mu\text{g}/\text{l}$ concentration would not provide assurance that the pH standard under typical low flow conditions would be achieved. The EPA suggests a 100 $\mu\text{g}/\text{l}$ total phosphorus limit for streams to prevent nuisance algal growth. However, the EPA also states that site specific data should be used where available. The Department feels the site specific data provide adequate reason for requiring a stricter limit than the EPA suggested criteria.

Department's Recommendation:

The Department recommends that the Commission adopt the proposed phosphorus criteria of 80 $\mu\text{g}/\text{l}$.

2. SEASONAL LIMITS

Several commenters requested that the low flow period be defined as June 1 through November 30. Other commenters requested the low flow season be set from May 31 to October 31 as defined in their existing permits.

Log pond dischargers suggested that the dates for the wet weather period be consistent with their existing permit conditions which extends from November through May.

Department's Response:

The low flow season for the Rogue basin as defined by OAR 340-41-375 is ". . . approximately May 1 to October 31". The proposed rule taken to public hearing defined the low flow season as April through November. After review of the testimony, it was determined that it was

inappropriate to include April. The proposed rule defines the low flow period for Bear Creek as approximately May 1 to November 30.

The alternative proposals for summer conditions from June through October describe the period that summer conditions can be expected to occur. The transitional period when low flow conditions may occur is outside of these suggested dates.

Commenters felt that the rule may be interpreted such that the dates were taken verbatim and would exclude the potential for physical conditions that would justify "winter discharge". This interpretation could result in increased costs. Cost increases could result by the necessity to design a treatment plant that will achieve summer limits during the approximate time period when winter conditions can reasonably be expected to occur.

In effect, there are two alternatives:

- a. Extend the definition of approximate summer season to include November with specific language that allows physical conditions to describe high or low flow conditions in each permit, or
- b. Remove the month of May from the definition of low flow season and do not extend the season to include November. Similar language to above could be included in permits that would define conditions that would extend, or initiate the summer season.

The Department recommends that the seasonal low flow period be defined as "approximately May through November."

The Department recognizes that the low flow season is not a fixed event that occurs on the same calendar dates each year. The proposed language allows physical conditions, such as flow and temperature, to be used to define when low flow conditions will exist for each permitted discharge. This language allows the flexibility to adapt the definition as required by the needs of the individual discharge as long as the assimilative capacity of Bear Creek is not exceeded.

The Department proposes to extend the definition of low flow season to include November for the following reasons:

- a. Stream flows can be expected to be low during parts of, or all of November. Although November is generally a transitional period between low and high flow, historical records show that the flow in Bear Creek is much lower in November than typical winter months of January through April.
- b. Dissolved oxygen violations, 73% of saturation, have been observed in November below the Ashland STP during the recent studies. These violations were due to inadequate dilution during the low flow conditions.

- c. Permits may include language that define physical conditions of flow and temperature that could allow winter discharge.

The month of May can be expected to be a transitional period between high flow and low flow seasons. High stream flows can reasonably be expected throughout May. However, the Department does not propose to exclude the month of May from the definition of "low flow season" for the following reasons:

- a. Historical information shows that algal growth results in diurnal pH violations in Bear Creek at Kirtland Road during the month of May.
- b. The Department believes that nutrient limits need to be in place when physical conditions do not limit algal growth. Temperatures in May approach 15°C, which is warm enough to allow rapid algal growth and nitrification of ammonia.
- c. Language may be added to individual permits which define the physical conditions that would permit winter wet weather limits to be applied. This language would assure that the required controls are applied unless the assimilative capacity of Bear Creek allows wet weather discharge limits.
- d. Including the month of May as the beginning of the low flow period is consistent with existing basin plan requirements.

Log ponds have different discharge quality and requirements than does the Ashland STP. Because of these differences, the physical parameters that allow a "winter wet weather" discharge, as further defined in permits, would be expected to be different than those described in Ashland's permit. The program plans will need to discuss factors which would justify winter discharge based on winter WLAs during the transitional months.

Discussion of Seasonal Limits

Seasonal criteria are proposed because of natural variation in assimilative capacity due to changing physical conditions. Key physical factors that influence the assimilative capacity include sunlight, water temperature, and stream flow. The assimilative capacity of Bear Creek is dependent on several factors. However, it is not practical to define a specific TMDL for every potential combination of conditions. Seasonal criteria characterize the difference in assimilative capacity.

Flow: Runoff, resulting in high stream flow, is a key parameter in determining the assimilative capacity of a waterbody. The following table describes the seasonal distribution for the percent of average annual runoff from the Bear Creek Basin.

Bear Creek at Medford
Percent of Annual Runoff by Season

January - April (Winter)	61.2%
May - June (transitional)	15.0%
July - October (Summer)	8.8%
November - December (transitional)	15.0%

In any single year, the runoff patterns would be expected to vary significantly. However, the table does describe the typical seasonal pattern. The high runoff period is typically January through April. The low runoff period is from July through October. The months of May, June, November and December are transitional months.

Rainfall patterns do not exhibit the same annual distribution as runoff. This is a typical phenomenon. Runoff lags, approximately three months; behind rainfall. In undeveloped areas, high runoff does not occur until the soils have been saturated. The log pond dischargers must address how they will handle the rainfall that falls onto or is drained to their ponds during the low runoff periods as well as how they will achieve their WLAs during the wet weather period.

Temperature: Temperature is a key parameter affecting water quality. The rate of algal growth, the rate at which oxygen demand is exerted on a stream, and the amount of oxygen in a stream are all dependent on temperature. In general, low temperatures result in lowered algal growth and reduce the rate at which oxygen demand is exerted. Warm temperatures increase these rates and lower the assimilative capacity of the stream.

Temperature in Bear Creek varies seasonally as well as daily. There is not a clear break between summer and winter conditions. Temperature increases gradually, reaching a peak in late summer and a minimum during the winter.

Water Quality

pH: The pH violations in Bear Creek are due to algal photosynthesis and respiration. Observed pH levels exceed standards and are above levels identified by EPA as being directly toxic to fish and aquatic life. When algal photosynthesis controls pH levels, a diurnal trend will exist. Instream pH will be high during the late afternoon; during the night and early morning when sunlight availability limits growth, the pH will be low.

During the winter, physical factors of cold temperatures, low sunlight levels, and high flows combine to control algal growth and pH. Nutrient limitations are required when physical factors do not combine to limit algal productivity. Physical factors may not limit algal growth and pH violations in Bear Creek during May.

Figures __ and __ illustrate the historical pH data at Kirtland Road. During the winter, there is no diurnal increase in pH and standards

violations do not occur. Spring and summer data show a clear diurnal pattern and routine pH violations during the afternoon. Diurnal variation resulting in pH violations can occur as early as May. By this time, instream temperatures are 15°C and stream flows are dropping off. Standards violations have been observed to persist into early November.

Dissolved Oxygen: State standards and EPA criteria recognize the need to maintain high dissolved oxygen levels to protect the early life stages of salmonid production. The Oregon Department of Fish and Wildlife has stated that one or more of the life stages defined in OAR 340-41-325(2)(a)(A) occur throughout Bear Creek from October through May. The more restrictive (95% saturation) standard should apply for this period.

Very little historical data exists for locations where the oxygen deficit from the Ashland STP would be expected to occur. Winter violations of the 95% saturation standard do occur in Bear Creek below Ashland. However, typical values are within the no impairment levels as determined by EPA. Approximately 28% of the samples from the Valley View site collected from December through April fall in the range where no impairment or slight impairment would be expected as described by EPA.

Dissolved oxygen violations below Ashland are more extreme and frequent following the irrigation season in the fall and continue until winter flows provide adequate dilution. Data collected in 1988 showed dissolved oxygen levels of 7.6 mg/l (73% of saturation) in November. This level is well below the standard, within what EPA defines as moderate to severe impairment for embryo and larval stages of salmon, and in the range of no impairment to slight production impairment for other salmonid life stages. The TMDL needs to assure that dissolved oxygen standards will not be violated during this critical low flow period.

The proposed approximate time period for low flow conditions extends through November. This period covers the time when routine dissolved oxygen violations have been observed below Ashland. The rule also states that the precise dates for compliance may be conditioned on physical conditions such as flow and temperature.

At typical winter temperatures of less than 10°C, nitrification is inhibited and occurs much slower than at summer temperatures. Reaeration is not inhibited by temperature. Therefore, the assimilative capacity is greatly increased at low temperatures.

Maximum decay rates and minimum assimilative capacity occurs between 20° and 30°C. These temperatures are reached in Bear Creek by the end of June and exist through September. Although temperatures do not support maximum decay rates in May, temperatures by the end of May exceed 15°C and decay rates approach maximum. Temperatures in April appear to be below levels required to allow the proposed winter discharge.

Temperatures by late fall are fairly cool, approaching 10°C. The primary factor for determining "winter conditions" will be the amount of instream flow. Average runoff in November is 4.3% of the annual average, much less than the monthly contributions that occur in the winter months of January through April. The proposed rule would assure that stricter limits apply until it is shown that adequate dilution exists to prevent dissolved oxygen violations.

The description of physical conditions could depend on the control options selected. Intensive surveys in Bear Creek did not focus on the transitional periods between high flow and low flow seasons. Additional information focusing on spring and fall conditions may be required for defining the actual conditions.

3. FINAL COMPLIANCE DATE

The City of Ashland requested that the final compliance date be extended from December 1994 to November of 1996. The extension was justified in the time schedule presented in the program plan adopted by the City of Ashland. Several commenters supported Ashland's request for an extension in the compliance period.

Department's Response:

The Department recommends that the Commission retain the proposed five year compliance deadline. The proposed rule requires that all program plans be subject to public comment. No comments were proposed to eliminate this requirement from the proposed rule. The Department has not fully reviewed the program plan or accepted public comment on the plan. Until these steps in the process are complete, approximately 180 days following adoption, the Department can not support the alternative date suggested in the program plan.

4. BASIN TREATMENT REQUIREMENT -- DILUTION RULE

The City of Ashland, and their consultants requested that waste load allocations be based on the assimilative capacity of Bear Creek rather than by the dilution rule contained in OAR 34-41-375(c). The concern was presented as a request for exemption from the dilution requirement by the Commission. The dilution rule specifically allows exemption approved by the Commission.

Department's Response:

The dilution rule requires that the effluent BOD concentration divided by the dilution factor shall be less than one. For example:

At 30 cfs in Bear Creek past Ashland with a design flow of 3.1 mgd (4.8 cfs), the dilution ratio is $30 \div 4.8 = 6.5$.

The Ashland STP would have to achieve a maximum of effluent concentration of BOD at 30 cfs of 6.5 mg/l.

Some commenters noted that the dilution rule was a rule of thumb that equated load to instream oxygen supply. This interpretation is not consistent with the discussion of the dilution rule in the basin management plans. The intent of the Commission when adopting this rule was:

"The intent of this section [dilution rule] is to assure that following a high degree of treatment, effluents are adequately diluted to protect the public health, aesthetics, aquatic life and beneficial uses of the waterway. It is further intended that this section be one of the primary mechanisms to insure protection of water quality in headwater stream."

To provide technical justification for exemption from the dilution rule, there must be available assimilative capacity for all pollutants, not simply oxygen demand.

The proposed TMDL criteria define the assimilative capacity for nutrients, oxygen demand, and ammonia toxicity. The TMDL and the City of Ashland's program plan also describe the time frames for achieving chlorine residual limits and for addressing the whole effluent toxicity observed during the field studies. Achieving the TMDL provides the technical justification for waiving the dilution criteria for Ashland.

The Department believes that there are two criteria that have to be evaluated to justify exemption from the dilution rule. The first criterion is the assurance that adequate assimilative capacity exists in the receiving stream. The second argument is economic. The permittee must show that costs to achieve requirements of the dilution rule are unreasonable. The City of Ashland's program plan identifies that alternatives will be reviewed and evaluated by May 27, 1992.

The Department believes that the alternatives reviewed should include those alternatives that would achieve the TMDL and the existing basin design criteria. The Department recommends that the EQC not waive the dilution rule at this time. Justification of waiver based on cost is not available at this time.

The City of Ashland needs to know that they can reasonably pursue options that do not meet the dilution rule. The Department believes achieving the TMDL will protect the beneficial uses of water in Bear Creek. The Department recommends that the Commission acknowledge that options that achieve the TMDL but do not meet the dilution rule may be evaluated and acceptable to Commission.

5. DATE FOR SUBMITTAL OF PROGRAM PLANS BY LOG PONDS DISCHARGERS

Two companies who operate log ponds requested the date for submitting a program plan be extended from 90 days after adoption of rules to 8 to 12 months after adoption. The 90 days would allow them only 30 days after the distribution of waste load allocations to develop a program

plan. They claim this is insufficient time to develop reasonable program plans.

Department's Response:

The alternative time frames would require program plans to be submitted either by March or July of 1991. Unlike municipal discharges, there is a scarcity of effluent flow and effluent quality data from the log pond discharges. There is even less information on receiving water quality. It will be necessary to collect this information in order to determine the effect of the waste load allocations on the permitted wet weather discharges. Commenters felt that a credible program plan needs to be based on dependable data.

The Department agrees with the suggestion to extend the program plan submittal date. The discharge period occurs during the winter high flow season. Either eight months or one year would cover the wet weather season. One year would provide an additional four months following the wet weather period to submit program plans. The Department suggests adopting the alternative date of one year.

Draft plans should be submitted to the Department for review within eight months of rule adoption. The option to review draft plans allows assurance that the information the Department needs to evaluate alternatives and waste load allocations will be provided in the final plan.

6. TRIBUTARY AS CONDUITS

One commenter requested that the Commission retain the concept that the tributaries carrying log pond overflow are conduits for the waste and the receiving stream is Bear Creek.

Boise Cascade testified that tributary streams carrying log pond discharges should be considered as conduits for discharge to Bear Creek. Boise Cascade testified that the receiving stream was identified as Bear Creek, via tributaries, in their NPDES permits. Identification of the receiving as Bear Creek implies that the tributaries act as conduits for the waste to the receiving stream.

There is certainly inconsistency with the identification of Bear Creek as the receiving stream. The discharge location for log pond overflow is identified as Elk Creek. The mixing zone is identified as a specific portion of Elk Creek. The Department's existing policy is for water quality standards to be met outside of designated mixing zones. Applying this policy requires that basin water quality standards should be met in Elk Creek.

The beneficial uses for tributaries to Bear Creek are defined in OAR 340-41-362, Table 5. The Oregon Department of Fish and Wildlife, however, has indicated that fisheries population do not exist in the streams receiving log pond overflows.

Allowing the tributary streams to be identified as conduits for wastewaters implies that beneficial uses will not be protected in the stream. The transport of waste is not a recognized beneficial use of receiving water. However, some attenuation of pollution may occur in the tributaries. If the Commission elects to allow the receiving streams to be used as waste conduits, the mixing zone should be described as the entire tributary to the receiving stream.

Department's Response:

The Department recommends that the Commission not identify the receiving streams as simply conduits for waste to Bear Creek. This definition would in effect identify the entire receiving stream as the mixing zone for the log pond discharges.

Prior to eliminating a beneficial use, it should be demonstrated that the uses can not be attained at a reasonable cost. This information is currently not available. The log pond dischargers have proposed a year following adoption to collect the necessary information and develop program plans. These plans should identify options for protecting the beneficial uses in the tributary stream as well as in Bear Creek. With an evaluation of options and potential cost, a reasonable evaluation of impact on beneficial uses in the receiving water can be conducted.

The discharge of log pond effluent to tributary streams may create problems not specifically covered under the TMDL. Existing water quality standards (OAR 340-41-365(2)) do not allow:

- "(j) The formation of appreciable bottom or sludge deposits or the formation of any organic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry . . .
- (k) Objectional discoloration . . .
- (l) Aesthetic conditions offensive to the human senses of sight, taste, smell, or touch . . ."

Log pond runoff can be high in suspended solids and settleable solids. These waste characteristics can lead to discoloration of the water and buildup of appreciable bottom sludges. The program plans developed by the permitted log pond dischargers need to demonstrate that their proposed discharge will not violate any applicable standard.

7. LACK OF ENFORCEMENT

One commenter stated that it will do no good to set stronger discharge limits and criteria if the Department does not enforce standards as they have failed to do in the past. The commenter supplied a copy of a specific complaint that they filed in April of 1988.

Department's Response:

At least one log pond has been discharging to Bear Creek without regard to permit conditions for the past ten years. This continuing discharge is an obvious and gross violation of permit conditions. Several complaints have been received by the Rogue Valley Council of Governments and passed on to local DEQ officials. Presumably, several complaints have been directed to the local DEQ office.

For other log ponds, there is inadequate information to determine discharge loads. Monitoring is insufficient to determine if violations occur. One representative of a permitted log pond discharger has noted that doubts that the receiving stream even supplies the 50:1 dilution required in their general permit.

There has been concern with the lack of enforcement. The Water Quality Coordinator for the Rogue Valley Council of Governments has stated similar concerns with the lack of enforcement. Enforcement of water quality standards and effluent criteria is a necessary component of any plan to protect beneficial uses. The Department is the responsible agency for enforcing water quality standards and permit conditions. Recently, the Department filed notice of violation against MEDCO for discharge to Bear Creek in violation of their permit conditions.

The establishment of TMDLs represents a change in the Department's approach to water quality problems. In the past, the Department established effluent criteria based on the ability of the treatment process to remove pollutants. The TMDL requires that the effluent levels identified in the permits be based on the receiving waters ability to assimilate pollution. The Department fully intends that the levels established by the Commission will be attained.

8. OTHER CONCERNS

- a. Small communities' difficulties.
- b. All nonpoint sources are not known.
- c. Impact of rules on Jackson County not clear.
- d. Responsible agency for various nonpoint sources is not clear.

Jackson County and the several other commenters discussed several concerns that have a similar theme. The concern is that there is insufficient knowledge regarding components of compliance strategies. These concerns include:

- (1) The impact of the proposed water quality criteria on Jackson County is not clear. Data do not show how much of the load is being generated in unincorporated urban areas that are not subject to existing regulations.
- (2) It is unclear what authority the County has over private land owner activities which contribute to nutrient loadings.
- (3) Ordinances concerning irrigation and other practices which contribute to nutrient loadings from rural lands would be

difficult to adopt and expensive to administer. Jackson County would not favor such an approach.

Department's Response (8a-d):

The Department recognizes that all the answers are not yet available and that initial allocations may change upon further information becoming available. The strategies and time lines for collecting additional information and evaluating compliance schedules need to be defined in program plans. The proposed rule requires that program plans be developed and submitted by Jackson County and the incorporated cities within the Bear Creek basin.

Program plans will provide information, or strategies for answering the questions asked by Jackson County. The Department has provided assistance to the County, through the Rogue Valley Council of Governments, for developing appropriate program plans. Assistance includes a description of the Department's expectations of a Program Plan:

Guidance for Nonpoint Source Watershed Management Plans, 1988

Nonpoint Source Statewide Management Plan for Oregon, 1988

Assistance provided includes technical guidance for program plan development such as:

Results of the Nationwide Urban Runoff Program - Final Report USEPA 1983

Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality USEPA 1986

Guide to Nonpoint Source Pollution Control, USEPA 1987

Planning Guide for Evaluating Agricultural Nonpoint Source Water Quality Controls USEPA 1982

Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Washington Metropolitan Water Resources Planning Board, 1987

Guidance also includes examples of urban and rural nonpoint source control programs:

Bellevue Urban Runoff Program, Summary Report, 1984

Rock Creek Rural Clean Water Program Comprehensive Water Quality Monitoring, Annual Report, (Idaho Department of Health and Welfare, Division of Environmental Quality) 1988

The Department has provided funding for the Rogue Valley Council of Governments (RVCOG) to act as a liaison between the Department

and the affected agencies and provide technical review of the available information. The Department has further funded the RVCOG for the next biennium to provide local guidance and coordination of program plan development.

All the answers are not yet known. The Department believes that the development of program plans will allow a reasonable and cost effective approach for addressing nonpoint source pollution problems in the Bear Creek Basin.

- e. Conveyance of Ashland's wastewater to Medford should be an option.

One commenter noted that conveyance of Ashland's waste should be included as an option. This option would result in several advantages:

- o Eliminate major pollution loads to Bear Creek
- o Eliminate duplication of effort
- o Provide a rate reduction for Ashland residents
- o Provide electricity by breakdown of solids as fuel for Medford's COGEN facility rather than waste energy and produce pollution.

Department's Response:

This option is being considered by the City of Ashland.

- f. Extend the comment period for seven days.

One commenter requested that the comment period be extended seven days beyond the hearing.

Department's Response:

The Department did not extend the public comment period for one week following the hearing. The role of the hearing is not to hold an information session. The hearing provides an opportunity for public comment to be reviewed and responded to by the Department. This comment may be either written or orally submitted into the record, or both.

The Department did note at the hearing that comments received late would be reviewed and included in the record. However, late comments are not made part of the official hearings record. One late comment was received.

- g. Instream attenuation.

Several commenters requested that the Commission direct the Department to include instream attenuation in the preliminary load allocations.

Department's Response:

The request is for the Commission to require the Department to include an estimate of instream assimilation in the preliminary load allocations. Although this concern does not directly affect the proposed rule, it will influence the preliminary allocations that are required within sixty days of rule adoption.

The criteria proposed describe the loading capacity for phosphorus and oxygen demand in Bear Creek. The request is that the Commission direct the Department to include an estimate of the amount of instream losses that may occur in the initial allocations. To avoid confusion the term "instream attenuation" will be used to describe the request.

The Department has had several meetings and is currently working with a local advisory group to develop preliminary load allocations and waste load allocations. This process allows for direct local input and provides a reasonable forum for developing preliminary allocations. The Department recommends that the Commission not require the Department either to include or to not include an estimate of instream assimilation in the initial allocations.

By definition load allocations are ". . . best estimates of the loading which may range from reasonably accurate estimates to gross allotments, depending on the availability of appropriate techniques for predicting loading . . ." The Department's concern is that the preliminary allocations are a reasonable estimate of what will be required to achieve standard.

For the oxygen demand TMDL, instream attenuation in the form of decay and reaeration has been used to develop allocations discussed to date. Potential instream loss of phosphorus has not been quantified for Bear Creek or its tributaries. Some research has indicated that instream attenuation can be significant.

Quantifying instream attenuation under drastically different conditions such as when the TMDL is achieved is difficult without supporting data. The amount of phosphorus removal would be expected to be different under lower phosphorus loads than those that currently exist. For example, as instream levels drop to where nutrients limit algal growth, the amount of internal recycling becomes a major source of available nutrients.

The existing allocation process allows for instream attenuation to be accounted for. Accounting for instream attenuation is necessary to allow for passive treatment systems to be used. If options for passive treatment systems are used, for either tributaries or Bear Creek itself, the estimates of instream attenuation will have to be changed to reflect those options.

The following calculations illustrate how instream attenuation is accounted for:

Example Option 1, Sub-basin allocation without knowledge of instream attenuation.

Flow: 10 cfs:
Criteria 80 $\mu\text{g}/\text{l}$
Load Allocation $10 \text{ cfs} * 80 \mu\text{g}/\text{l} * 0.0539 = 43 \text{ lbs}/\text{day}$

Available load = 43 lbs day
Attenuation = unknown
Load Allocation = 43 lbs/day

Example Option 2, Sub-basin allocation with planned passive treatment system removing 20% of total phosphorus.

Flow 10 cfs:
Criteria 80 $\mu\text{g}/\text{l}$
Load Allocation = 43 lbs/day

Available Load = 54 lbs/day (allocation)
Instream Attenuation = -11 lbs/day (allocation)
Basin Load Allocation = 43 lbs/day (load allocation)

The instream attenuation is accounted for as a negative load allocation. The preliminary load allocations discussed to date calculate the final load allocation required to achieve the TMDL.

Program plans and compliance plans will be developed to determine how these allocations are to be achieved. Potential options include passive treatment systems. Passive treatment systems in effect increase the instream attenuation. As the options are reviewed and selected, the allocations will have to be refined to reflect changes in the attenuation. The program plans, or the compliance plans developed from the program plans, may provide a preferable forum for including attenuation into the allocations.

The program plans may not be able to identify specifically the location and effectiveness of passive treatments. However, the program plans can describe strategies and time frames for reviewing passive treatment options. Similarly, the program plans can define a time frame for refining the IAs when additional information is available on passive treatment or instream attenuation.

The Department does not reject strategies that include estimates of instream attenuation in the initial allocations. Including estimates of attenuation would tend to disguise what is required to achieve standards. If instream attenuation is included, the program plans must describe how that negative allocation will be verified.

h. Alternative winter BOD.

During review and discussion of the TMDL with EPA, an alternative winter BOD criteria was described.

Although formal comments were not presented, EPA staff have been providing review and input into the development of the TMDL for Bear Creek. EPA was concerned with the winter proposed BOD criteria. The proposed criteria exceeds the observed level of BOD₅ at the historical Kirtland Road sampling site. EPA staff felt that the winter BOD TMDL could be interpreted to allow excessive oxygen demand loads to Bear Creek. The proposed special policies and guidelines should provide criteria that are not confusing and can be readily measured.

Department's Response:

Limits based on any component of biochemical oxygen demand have the potential for confusion. For example, substantially higher reaeration exists in Bear Creek near Ashland. A significant amount of additional flow for dilution will occur between Ashland and Kirtland Road. Because of greater assimilative capacity and additional dilution, the oxygen demand concentrations may be higher in Bear Creek near Ashland than at Medford.

Establishing the criteria on the measured five-day BOD provides the advantage of direct instream measurement. This is the parameter measured in the field and data can be directly compared to the criteria or the historical records. The major concern, as stated above, is that instream BOD₅ can reasonably be expected to be higher in upstream locations where greater assimilation is available. It is therefore necessary to define where in Bear Creek the measurements are to be taken.

The Kirtland Road sampling site provides the longest historical record and is in a region of concern during the winter. The Kirtland Road site is low in the basin and will provide a measurement of Bear Creek's load to the Rogue River.

The Department recommends defining the winter BOD criteria as a median value of 2.50 mg/l instream BOD₅ as measured at Kirtland Road. This alternative will allow ambient data to be compared directly to the criteria. Specific waste load allocations will have to include the instream attenuation and dilution that will occur in Bear Creek. It can reasonably be expected that BOD₅ measured upstream of Kirtland Road may exceed 2.5 mg/l and not result in a dissolved oxygen standards violation. When comparing this value to the original proposal, 7.3 mg/l in Bear Creek, it is necessary to remember that the original proposal was for biochemical oxygen demand including the nitrogenous demands and applied anywhere in Bear Creek. The proposed 2.5 mg/l BOD₅ provides a more direct measurement for evaluating the criteria and the effectiveness of the basin water quality management plans.

The Department believes that this level will protect the beneficial uses of Bear Creek during winter wet weather conditions.

The winter period dissolved oxygen violations near Kirtland Road in Bear Creek are frequent but not extreme. Since 1975, approximately 30% of the winter samples at Bear Creek have fallen below the 95% saturation standard. Observed minimum dissolved oxygen levels of 8.6 mg/l fall between what EPA defines as slight to moderate production impairment for salmonids. Four percent of the samples collected fell below the EPA suggested criterion of 9.5 mg/l.

Data collected during the last three years has shown an increase in BOD₅ levels and a greater frequency of dissolved oxygen violations. This occurrence may be due to the lower flows in Bear Creek resulting from low runoff. During the intensive surveys, dissolved oxygen violations appeared to be associated with periods of high loads and low stream flows.

The proposed winter criteria is below the average BOD₅ levels observed since 1985 (3.0 mg/l). The criteria is consistent with the long-term median value observed since 1975. Waste load allocations using the proposed criteria will lead to reduced winter BOD loads and prevent the occurrence of high load discharges during low winter flows. The Department believes that the criteria will protect the beneficial use of salmonid production in Bear Creek.

i. Clean up Bear Creek.

One commenter noted that the Department should expect a lot of resistance from agriculture and business; however, Bear Creek does need to be cleaned up.

Department's Response:

The Department is committed to cleaning up Bear Creek.